

Dean's Regulation				
No.3/2018				
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	Name:	Position:	Date:	Signature:
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PART I

Article 1

Introductory Provision

- (1) Studies in accredited doctoral programs are carried out in accordance with Section 47 of Act No. 111/1998 Coll., On Higher Education Institutions and on Amendments to Other Acts (Higher Education Act) (hereinafter referred to as the "Act").
- (2) These rules adjust details of the organization of study in doctoral degree programs at the Faculty of Mechanical Engineering, in accordance with Articles 15 to 22 of the Study and Examination Regulations of TUL (hereinafter referred to as "SER TUL").

Article 2

Admission Procedure

- (1) A condition for admission of candidates to the doctoral study program is the due completion of studies in Master's degree program either in technical or natural sciences majors till the holding date of the admission procedure.
- (2) The admission procedure starts on the day of submitting the application for studies.
- (3) The admission procedure includes an entrance interview, which takes place in front of the admission committee, hereinafter referred to as the "admission committee."
- (4) The Admissions Commission evaluates the candidate's prerequisites and abilities, i.e. professional knowledge, or practice, publication activity and knowledge of languages, with

- (5) a focus on the planned study field and the topic of the dissertation during a personal interview.
- (6) A condition for admission of foreigners for studies in Czech language is the knowledge of the Czech language at least at the level of B1 and fulfillment of the statutory conditions according to Act No. 111/1998 Coll. other conditions according to SER TUL. Knowledge of the language is not submitted in case that the student completed his Master's Degree in Czech.
- (7) A condition for the admission of applicants for studies in English is knowledge of the English language at least at level B1 and compliance with statutory conditions under Act No. 111/1998, On Higher Education Institutions and other conditions according to SER TUL (Nostrification, etc.). Knowledge of the language is not submitted if the student has completed a Master's Degree in English.
- (8) The applicant shall be informed about the result of the admission procedure in a written form within 14 days after the interview.
- (9) The applicant becomes a student on the day of enrollment in the study.

Article 3

Forms of Studies and Scholarships

- (1) Study in a doctoral degree program (hereinafter referred to as "DSP") is carried out in a full-time or combined form. It is conducted according to an individual study plan (hereinafter referred to as "ISP").
- (2) Departments of the faculty and the institutions with which the participation agreement is concluded in the course of studies are the DSP training centers.
- (3) Full-time study takes place at a training workplace that organizes doctoral student (hereinafter referred to as "the student") activities and his/her stay at the workplace.
- (4) Combined study takes place mostly outside the training workplace, while the organization of studies and duties requiring presence at the workplace is agreed individually.
- (5) Doctoral scholarships may be awarded to students studying in the Czech language at full-time standard studies. If a student fails to comply with the obligations of the ISP without serious reasons, the Dean may reduce, suspend or withdraw the scholarship.
- (6) Scholarships may be paid out to full-time and combined students in accordance with the TUL FS Scholarship Regulations and the relevant Dean's Directive.
- (7) In case that a student demonstrates the completion of an English language examination by a standardized language examination certificate, the examination fee may be reimbursed upon submission of the relevant certificate.

Article 4

Standard Length of Studies and Interruption of Studies

- (1) Standard length of studies is four years.
- (2) Student may apply for interruption of studies. The time and conditions of the interruption are given by SER TUL. Interruption of studies is permitted by the Dean of the Faculty, who determines conditions and length of interruption in his decision. The total interruption period may not exceed two years.
- (3) At the time of interruption of studies, the person is not a student. Upon expiry of the period for which the study was interrupted, the person shall be entitled to re-enroll in the study. The student can ask for confirmation of facts related to the interruption of studies.
- (4) The interruption period is not included in the total period of study.
- (5) The deadline for submitting an application for a dissertation defense in all forms of study shall be no later than six years from enrollment to study, unless the Dean provides otherwise

in exceptional cases. The period of interruption of study is not included in this period.

Article 5

Study Duties

- (1) Studies are conducted according to the ISP, which is updated by the Annual Study Plans (ASP). These plans are compiled by the supervisor in agreement with the student and approved by the Subject Board of the study program.
- (2) In the ISP, there is obliged to pass at least three examinations in subjects from two areas, from a science applied basis and a field-applied basis. The number of tests can be even higher if knowledge is needed to deepen or expand.
- (3) Subjects are chosen from the offer of courses according to the focus of the dissertation. Subjects for individual DSP, their content and study literature are listed in IS STAG. A list of accredited subjects is given in Annex 1 of this Directive. Students prepare for the exam after agreement with the subject guarantor, visiting lectures or seminars or self-study with individual consultations.
- (4) Student may also choose other exams on an ad hoc basis depending on the focus of the dissertation. Ad hoc subjects can be selected from subjects accredited in other DSPs. In selected cases it is possible to compose the subject individually.
- (5) In the first year of studies, the student should usually take one exam in the subject of scientific applied base. Other subjects should be directly linked to the focus of the dissertation. These exams should be done by the end of the second year of study. Based on research and recommendations from the colloquium, these subjects can be specified in the ISP after being approved by the subject council.
- (6) One of the parts of study duties in the first year of study is the completion of the colloquium at which the student presents the work in progress, i.e. the professional research of current knowledge related to the topic of the dissertation, the objectives of the thesis, the hypotheses, methodological bases, and the plan for further solution.
- (7) An English language exam at the minimum level B1 of the Common European Framework of Reference for Languages is also a part of the DSP. The language examination may also be demonstrated by a minimum level B1 language proficiency certificate. B1.
- (8) An internship lasting at least for three months at a foreign institution is a part of the study. It is recommended for the end of the second year or during the third year of studies. On the basis of justification, request and approval by the Subject Area Board, an exception from internship is permitted when it is carried out at a major research and development institution in the Czech Republic. After completing the internship, the student submits a report on it, on professional activities and other activities realized within the trainee/internship. At the same time, a seminar will be held at the training center informing about the results and conclusions of the internship. Doctoral student informs the relevant Vice-Dean of the Faculty about the seminar.
- (9) During the first and second year, the student is required to attend two seminars at least or courses on academic skills and other competencies. The offer or mediation is provided by the Vice-Dean of the Faculty of Mechanical Engineering, who is responsible for the doctoral studies (hereinafter referred to as the "Vice-Dean").
- (10) In the third year of study, after successful completion of examinations and a sufficiently developed dissertation, the student enrolls in the State Doctoral Examination (SDE). The Dissertation consists of a debate on the dissertation and an oral examination concerning the professional issues of the previous study, which demonstrates the student's professional and theoretical knowledge in relation to the dissertation topic. The content and scope of the exam are based on the student's examinations performed so far according to paragraph (5).

- (11) After passing the SDE, the student completes the dissertation.
- (12) Upon successful completion of the SDE and submission of the dissertation, the student submits the application for the defense of the dissertation. A prerequisite for the defense of the dissertation is the fulfillment of all the duties defined in the student's ISP.

Article 6

Scientific and Publishing Activities

- (1) The essence of the DSP study is the performance of the original research in solving a specific scientific task or research task related to the topic of the dissertation as well as the engineering activity of the structural and technological character at the highest level of knowledge depending on the nature of the assignment.
- (2) Depending on the possibilities of the training workplace in particular, the student's participation in the preparation and solution of scientific research projects related to the topic of the dissertation and participation in the student grant competition is desirable.
- (3) Scientific publication is the ultimate manifestation of scientific activity, discussions and work on the preparation of publications are the most effective forms of university education. The student publishes results of scientific research in professional journals and presents them at professional conferences.
- (4) A condition for submitting the dissertation is the presentation of results in at least one of non-zero impact journals or in two publications published in major reviewed journals that are in WoS or Scopus. At least one of these publications, the doctoral student has to be its first author. In selected cases, it is possible to replace the publication in the form of a granted patent for a significant technical solution connected with the dissertation solution. The significance of the technical solution is assessed by the Subject Board at the moment of filling the patent application. In that patent, the student must be an author with a significant contribution to its creation.

Article 7

Pedagogical Activity

- (1) Student's duty is also the teaching activity specified in the ISP. The student should participate in pedagogical activity usually 2 hours a week or by agreement with the head of the training center.
- (2) In the framework of teaching practice, he/she is supervised by supervisors, guarantors or teachers, during seminars in professional subjects in a Bachelor's or Master's degree study program.
- (3) Another possibility of pedagogical activity is to supervise students' works and projects, professional seminars and consultations of semestrial and final theses.
- (4) In case that it is not possible to prescribe the pedagogical practice, this activity is replaced by another one, especially according to paragraph 4, in the same extent, related to the work of the training workplace.

PART II

Article 8

Subject Board and Study Program Guarantor

- (1) The DSP Board of Supervisors monitors and evaluates the DSP pursuant to Article 17 of the SER TUL.
- (2) The chairman of the Subject Council is the DSP guarantor, who is responsible for quality and for the proper implementation of the study program.

Article 9

Supervisor and Consultant

- (1) The supervisor is a dominant person in the system of a doctoral preparation, with the competences and duties defined in the article 18 SER TUL, especially in the following:
 - a) proposes a dissertation topic,
 - b) proposes an ISP upon agreement with the Ph.D. student,
 - c) participates in organizing the studies,
 - d) participates in examinations,
 - e) carries out continuous monitoring of the ISP, submits an annual assessment of ISP performance to the Subject Area Board,
 - f) proposes to the Dean appointment of a consultant in case of need for a specific area of the studied issue.

Article 10

Doctoral Study Commission

- (1) The Admission Committee is appointed by the Dean of the Faculty after the Subject Council had formulated its composition. The Commission has 3 members at least, including the Commission President. A future supervisor is also a member of the commission; whose favorable opinion is a condition for admission of the candidate to the study on the announced topic. The result of the admission procedure is a record in the prescribed form.
- (2) A professional exam committee has at least three members, including a supervisor. The subject guarantor examines the doctoral student in the presence of a supervisor and possibly other experts. The member of the commission is also a relevant vice-dean, eventually another member delegated by him/her. It is necessary to inform the relevant Vice-Dean sufficiently in advance of the examination in a specialized subject. A record on the prescribed form is written out regarding the examination result.
- (3) The Commission for a State Doctoral Exam (SDE) is appointed by the Dean on the proposal of the Subject Council. The Commission shall consist of a Chairperson, a Vice-Chairperson and at least three other members. The Commission is either permanent or ad hoc. The Standing Committee shall consist of a permanent chairman and at least two permanent members. Other members of the Board are appointed by the Dean on the proposal of the Advisory Board so that the Board has at least 5 members including the Chair. An "ad hoc" Commission may be appointed in specific cases even if a permanent commission is established. Only professors, associate professors and experts approved by the Scientific Council have the right to examine the student during the state examination. One member of the committee must be a person outside the TUL academic community. Neither the supervisor nor the consultant is a member

of the SDE Commission.

- (4) The Dean's Committee for Dissertation Defense is appointed by the Dean on a proposal from the Subject Area Board. The Commission is either permanent or ad hoc. The Standing Committee shall consist of a permanent chairman and at least two permanent members. Other members of the Board are appointed by the Dean on the basis of a proposal from the Subject Council ad hoc. Other members of the Commission are always opponents or other experts so that the committee has at least 7 members including the Chairman. An "ad hoc" Commission may be appointed in specific cases even if a permanent commission is established. At least two members must be outside the TUL academic community. Neither the supervisor nor the consultant is a member of the defense committee.

Article 11

Control and Assessment of Studies

- (1) Control and assessment of studies are coming out of SER TUL, from art. 15 to art. 22.
- (2) Study obligations are continuously checked throughout the study. The supervisor performs a continuous check of the student's ISP performance. The study is monitored and evaluated by the Subject Council of the relevant DSP.
- (3) The supervisor submits an annual written evaluation of the student's ISP performance to the Subject Board once a year by 31 October of the relevant year, including recommendations for further studies. The evaluation includes a student's written report on the prescribed form regarding his/her activity for the assessed period.
- (4) Form signed by the PhD student as well as the supervisor is handed over to the Study Department.
- (5) In case of non-fulfillment of study duties and neglecting studies, the supervisor may submit a proposal to the Dean to reduce or withdraw the scholarship or terminate the study.

PART III

Article 12

Colloquium

- (1) The colloquium is held in the form of a public debate regarding the focus of work. The relevant Vice-Dean is in charge of the organization. The colloquium is a record that serves as a basis for the recognition of obligations in IS STAG.
- (2) Members of the professional council of the colloquium are the supervisor, head of the training workplace, the member of the professional council according to the recommendation of the chairperson of the OR, the respective vice-dean and, if applicable, other experts.

Article 13

State Doctoral Exam

- (1) After completing the study obligations set out in the Article 5 of this Directive, a doctoral student submits an application for a SDE to the Study Department supplied with the supervisor's statement. The student shall attach the thesis of the dissertation to the application in the form agreed with the supervisor in accordance with SER TUL.
- (2) The Dean assesses results of studies and, based on the opinion of the Subject Board, notifies the student of the exam date at least 1 month beforehand. As a rule, SDE takes place within 90 days of submitting the application.
- (3) If a doctoral student fails to meet the stipulated conditions, the Dean rejects the application.

- (4) SDE is public and held at the presence of the Commission.
- (5) The committee discusses results of the SDE in a closed session and decides on the result of the examination by secret ballot. The overall result is evaluated by "passed" or "failed". Most of the positive votes of all members of the State Doctoral Examination Board are needed to achieve the "passed" classification.
- (6) If the SDE is unsuccessful, the commission sets conditions and a repetition date. The SDE can be repeated only once, and not earlier than 3 months from the date of the unsuccessful examination, and no later than two years. If the student fails to pass the examination even in this term, he / she will not meet the requirements arising from the study program pursuant to Section 56 (1) (a) of the Act and the study is terminated, as it is decided according to § 68 of the Act.
- (7) A record is made on the course of the SDE and its outcome, which is signed by the chairman of the commission. The chairperson announces a result to the PhD student in a public after the meeting.

Article 14

Dissertation

- (1) Dissertation is the result of solving a specific scientific or research task. It must contain original results of the student's individual work. The content and formal aspects of the dissertation corresponds to the practice of publishing scientific results in the field.
- (2) Dissertation usually contains:
 - a) an overview of the current state of the subject matter of the dissertation, with references to the used sources,
 - b) aims of the dissertation,
 - c) description of his/her own solution,
 - d) original results and their application especially in publicly opposed publications and projects,
 - e) evaluation of results for science or practice,
 - f) recommendations for continuing work on the subject and field,
 - g) a list of published works by a doctoral student (including all co-authors of published works and their authors' shares) as well as their possible citations,
 - h) list of used literature,
 - i) a declaration of intellectual property or copyright, which is stated in a separate statement at the beginning of the dissertation,
 - j) annotation in the language in which DSP accredited is, annotation in English, or annotation in another world language.
- (3) The text part of the dissertation should not exceed 120 pages. Schemes, tables and other annexes are not included in the number of pages.
- (4) The dissertation may be submitted in Czech, Slovak or English. After discussion and with the consent of the Dean, it can also be submitted in another language.
- (5) The dissertation must be available to the public for at least 4 weeks from the time the defense is publicly announced.

Article 15

Permission for Defend

- (1) Application for the defense (hereinafter referred to as the "application") is submitted by the Ph.D. student to the Dean of the Faculty after completing the ISP and after the successful completion of the SDE. The application contains the following annexes:
 - a) 4 copies of the dissertation,

- b) list of a doctoral student's publications,
 - c) 12 copies of self-reports,
 - d) CV,
 - e) supervisor's assessment on dissertation.
- (2) The presentation expresses basic ideas and concepts contained in the dissertation (usually in A5 format, up to 20 pages of text), resumé, key words and so on. It is intended to allow a wider range of professionals to get acquainted with results of the dissertation as well as submit questions and comments before the defense itself. Information about the form of the presentation (graphic design of the title page, format and possible attachments) provided by the Study Department.
- (3) If a Ph.D. student has fulfilled all stipulated conditions and has submitted the dissertation including the required annexes, the materials are moved forward to the Subject Council. As a rule, within 30 days, the Dean appoints opponents of the dissertation on the basis of a proposal from the Subject Area Board.
- (4) If the Dean finds out that conditions for the defense pursuant to Article 14 (1) have not been met or that the dissertation as well as all required annexes do not meet requirements of the Article 13, he / she shall interrupt the proceedings and invite the applicant to remedy the deficiencies within a specified period. Similarly, the applicant may withdraw the application throughout the period till the non-public meeting of the Commission is held (Article 23 (1) of the Code.
- (5) If, during proceedings, the defense committee finds out that the dissertation has substantial deficiencies of a professional nature, it shall recommend the applicant to withdraw the application. The Commission shall terminate the procedure after the request had been withdrawn. If the applicant disagrees with the recommendation of the defense committee, the proceedings continue.

Article 16

Opponent

- (1) The Dean appoints opponents of the dissertation on the proposal of the Subject Council.
- (2) At least three opponents, prominent experts in the relevant field of science and at least two of them must be professors or associate professors, who assess the dissertation. At least two opponents may not be members of the TUL academic community.
- (3) Opponents are members of the Defense Committee.
- (4) The opponent is obliged to submit a written report and return the dissertation within one month from the receipt of the appointment, or to inform the chairman within 15 days from the receipt of the appointment that the report cannot be elaborated.
- (5) The opponent shall express his/her opinion on the following in particular:
- a) whether the topic up to date is and meets the aim,
 - b) chosen methods of processing,
 - c) results of the dissertation and the importance for the scientific field,
 - d) whether the dissertation meets conditions defined in the Article 14,
 - e) comments on the student's publishing activities
 - f) whether or not to recommend a dissertation for the defense.
- (6) The assessment should be concise and include an analysis of merits and deficiencies of the dissertation.
- (7) The Ph.D. student has the right to acquaint himself / herself with opinions of the opponents on the dissertation at least 4 weeks before the date of the defense.

Article 17

Defence of the Dissertation

- (1) Studies in a doctoral degree program are duly completed by the SDE as well as the defense of the dissertation (see Section 47 (4) of the Act).
- (2) The Chairman of the Defense Commission usually sets the date and place of the defense within 30 days after receiving all assessments. The deadline is announced to members of the defense committee no later than 4 weeks before holding the defense. The place and date of the defense is published on the public part of the faculty website.
- (3) Not later than 2 weeks before the date of the defense, all members of the committee, the supervisor and the doctoral student receive an invitation, opponents' assessment and a presentation.
- (4) Defense of the doctoral dissertation is open to the public. It is conducted in a form of a scientific debate among the applicant, opponents, other members of the commission and other participants in the defense.
- (5) Opponents play an essential role in the defense. If one of them cannot be present for serious reasons and at the same time gives a positive assessment, the defense may take place provided that at least two opponents are present.
- (6) Defense is managed by a chairman of the commission.
- (7) As a rule, the defense is proceeded as follows:
 - a) the Chair introduces the topic and the candidate's CV to persons who present are
 - b) the applicant presents a brief explanation of the content of the dissertation,
 - c) opponents present substantial content of their assessments (in the absence of one of the opponents, the assessment is read in full),
 - d) supervisor's assessment is presented,
 - e) The chairman presents the attendees with further opinions and starts a discussion. It is possible to verify the correctness of the knowledge contained in the dissertation.
- (8) After the end of the defense, a non-public session will be held in the presence of all members of the Commission.
- (9) Commission assesses the level of a submitted work as well as candidate's ability to defend results and his/her own opinions. Members of the Commission declare a proposal for the academic title by secret ballot. To submit a proposal for acquiring a doctoral degree, an absolute majority of the votes of all the members of the Commission is required.
- (10) If the result of the vote was "unsuccessful", the Commission decides by a vote to justify the rejection and decides about further steps at a non-public session. The dissertation defense may be repeated once, but no later than by the end of the following academic year.
- (11) A protocol ("Minutes of the State Doctoral Examination and Dissertation Defense") is going to be drawn up about the course of the defense and the result of voting, which is signed by the Chair of the committee.

PART IV

Article 18

Final and Temporary Provisions

This Dean's Directive regulates details on the organization of studies in doctoral degree study programs P0715D270004 Applied Mechanics, P0715D270001 Machine and Equipment Design, P0788D270002 Technology and Materials, P0715D270003 Applied Mechanics, P0715D270002

Machines and Equipment Design P0715D270003 Applied Mechanics, P0715D270002 Machines and Equipment Design and P0788D270001 Technologies and Materials.

Article 19

This Regulation shall enter into force on 1 September, 2018.

Annex 1

List of Compulsory Elective Courses for DSP Applied Mechanics

Scientific Applied Basis:

- Applied Mathematics
- Continuum Mechanics
- Numerical Linear Algebra
- Numerical Methods in Heat and Mass Transfer
- Selected Papers on Fluid Mechanics
- Thermodynamic Processes
- Computational Methods in Nonlinear Mechanics
- Mechanical Behavior of Materials

Field Applied Basis:

- Analysis and Simulation of Mechanical Systems
- Bio thermodynamics
- Experimental Methods in Mechanics
- Programming in C, C ++ and Fortran
- Heat and Mass Transfer
- Selected Optical Measurement Methods in Mechanics
- Gas Dynamics
- Machine Dynamics
- Electrical and Electrohydraulic Servomechanisms
- Experimental Fluid Mechanics
- Hydraulic and Pneumatic Mechanisms
- Numerical Methods in Fluid Dynamics
- Testing of Mechanical Systems, Vibrodiagnostics
- Thermophysical Properties of Substances

List of Compulsory Elective Courses for DSP Machines and Equipment Design

Scientific Applied Basis:

- Applied Mathematics
- Statistics and Data Analysis
- Continuum Mechanics
- Mechanical Behavior of Materials

Experimental Methods in Mechanics
Modeling of Nonlinear Structures of Mechanical Systems
Computational Methods in Nonlinear Mechanics
Heat and Mass Transfer
Applied Fluid Mechanics
Computational Methods and Simulations for Heat and Mass Transfer

Field Applied Basis:

Analysis and Simulation of Mechanical Systems
CAE – Advanced Design Methods
Electrical and Electrohydraulic Servomechanisms
Physical and Chemical Processes of Mixture Combustion in PSM
Hydraulic and Pneumatic Mechanisms
Machine Dynamics
Experimental Methods for Power Equipment
Testing of Mechanical Systems, Vibrodiagnostics
Industrial Robots and Applied Robotics
Theory of Vehicles - Selected Chapters
Selected Papers from Glass Machines
Selected Chapters of Textile Machines and Machines for Production of Nanofibers
Selected Papers from Production Machines
Selected Topics on piston Combustion Engines
Selected Chapters from Power Machines

List of Compulsory Elective Courses for DSP Technology and Materials

List of Compulsory Elective Courses:

Scientific Applied Basis:
Applied Mathematics
Statistics and Data Analysis
Physics of Solid Substances
Physics of Polymers
Mechanical Behavior of Materials
Thermodynamic Processes
Advanced Methods of Operational Research

Field Applied Basis:

Polymers and Composites
Material States Limits
Methods of Structural Analysis
Surface Engineering
Plastics and Composites Processing Technology
Progressive Foundry Technologies
Metal Forming

Technology of Joining and Dividing Materials
Machining Methods and Processes
Simulative Numerical Calculations of Technological Processes
Methods of Analysis and Evaluation Methods
Metrology
Experimental Methods in Mechanics
Digital Factory and Production Management Information Systems