



University of Rijeka
FACULTY OF ENGINEERING



**REGULATIONS
ON THE DOCTORAL STUDY PROGRAMMES OF
THE FACULTY OF ENGINEERING OF THE
UNIVERSITY OF RIJEKA**

Rijeka, October 2023

Pursuant to Article 19, paragraph 3, in connection with Article 62, paragraph 6 of the Act on Higher Education and Scientific Activity (*Narodne novine* Official Gazette 122/2022) and Article 43 of the Statute of the Faculty of Engineering of the University of Rijeka, the Faculty Council of the Faculty of Engineering of the University of Rijeka, at its 2nd regular session held on 27 October 2023, adopted the following

REGULATIONS ON THE DOCTORAL STUDY PROGRAMMES OF THE FACULTY OF ENGINEERING OF THE UNIVERSITY OF RIJEKA

1 GENERAL PROVISIONS

Article 1

This document regulates the organisation and implementation of doctoral study programmes (hereinafter: Programmes) and the procedure for obtaining the academic degree of Doctor of Science at the Faculty of Engineering of the University of Rijeka (hereinafter: Faculty).

The Regulations and annexes are written in Croatian and English. In case of any ambiguity, the Croatian version should be used.

2 ORGANISATION OF PROGRAMMES AND SUBJECT AREAS

Article 2

The title and implementation of Programmes

Programmes are organised as studies to obtain the academic degree of Doctor of Science in accordance with the relevant legislation and general acts of the Faculty. The titles of the studies are: Doctoral Study Programme in the area of technical sciences, with an indication of the scientific field(s) in accordance with the title of the accredited study programmes of the Faculty. The doctoral study programmes are conducted at the postgraduate level and train the student for independent scientific work.

The programmes are carried out in accordance with the European Credit Transfer and Accumulation System (hereinafter: ECTS).

The programmes are carried out on a full-time or part-time basis, and upon fulfilment of all prescribed conditions and the public defence of the doctoral thesis, the academic degree of Doctor of Science is obtained with an indication of the scientific area of Technical Sciences (**dr. sc. tech.**). The abbreviation of the academic title precedes the person's first and last name.

At least 180 ECTS credits are acquired upon completion of the programme.

Programmes are carried out in Croatian and English.

Article 3

Scientific area, fields, branches and subject areas of Programmes

Programmes are carried out in the fields of Naval Architecture (2.02), Mechanical Engineering (2.11), Fundamental Engineering Sciences (2.15), Interdisciplinary Engineering Sciences (2.16), Electrical Engineering (2.03), and Computer Science (2.09) as part of the scientific area of Technical Sciences.

Courses within the programmes cover the aforementioned fields and are organised by subject area as modules. Modules are defined in the study programmes and are formed for the purpose of a clearer overview of related subjects.

Article 4

Programme Bodies

The Programme bodies are the Dean, the Faculty Council, the Committee for Postgraduate Study Programmes and Science, the Vice-Dean for Science, the Head of Doctoral Study Programmes, the Module Heads, and Supervisors.

Article 5

Duration of Programmes

Doctoral study programmes last at least three years, and at most six years.

The time of the approved suspension of the student's rights and obligations is not included in the duration period of the study programme.

3 ADMISSION TO STUDY PROGRAMMES

Article 6

Admission procedure, public call for admission, final decision on the implementation of Programmes

Admission to a Programme is carried out on the basis of a public call published by the Faculty Council, which generally takes place 3 months before the start of classes.

A public call contains information on the conditions and procedure for admission, the number of students to be accepted, the documents to be submitted with the application, tuition fees, and the deadlines for application and enrolment.

The public call is published on the official website of the Faculty in Croatian and English, as well as on relevant international websites in English.

The Faculty Council makes the final decision on the implementation of the Programme for which a public call has been issued.

Article 7

Right to apply for a Programme

A doctoral study programme can be enrolled on by a person who has completed an appropriate:

- university integrated undergraduate and graduate study programme, university graduate study programme or university specialist study programme on one of the university study programmes at a faculty from which the candidate has acquired at least 300 ECTS credits, including the undergraduate cycle. Students who have not completed a study programme in the area of engineering sciences may be allowed to enrol if it is assessed that they have the appropriate knowledge to study one of the offered study programmes.

If required, students may also be requested to complete bridging courses to acquire the basic knowledge necessary to attend and complete their study programme.

The conditions for admission to doctoral study programmes are determined by the Faculty.

Article 8

Application documents

Applicants are required to enclose the following documents with their application for the Programme:

- PDS-1 application form,
- PDS-2 curriculum vitae form,
- evidence of necessary qualifications pertaining to Article 7,
- certificate of exams passed with a transcript of exam and diploma thesis grades,
- reference from at least one university professor who is familiar with the academic achievements of the potential candidate (PDS-3),
- supervisor's consent with the supervisor's CV,
- identification document,
- confirmation of the institution or other legal person or a signed statement of the applicant regarding the payment of tuition fees,
- other documentation that may be relevant for admission on the programme and for studying,
- doctoral student sustainable research plan form, signed by the supervisor (PDS-15).

Applicants who have obtained a degree from a foreign educational institution are required to submit to the Faculty the decision of the competent authority on the recognition of foreign degrees before enrolling.

Article 9

Selection of applicants

The proposal of applicants for admission onto the Programme is given to the Faculty Council by the Committee for Postgraduate Study Programmes and Science on the basis of a report by the Committee for Interviews with Applicants for Admission to Doctoral Study Programmes appointed by the Faculty Council, and is based on the following indicators:

- achievement at the previous level of study,
- the grade received for the diploma thesis at the previous level of study,
- acquired competencies,
- student awards and activities,
- the reference of a university professor who is familiar with the academic achievements of the potential candidate,
- the applicant's presentation before the Committee for Interviews with Applicants for Admission to Doctoral Study Programmes.

If the number of applicants who meet the conditions for admission exceeds the capacity of the relevant faculty offering Programmes in accordance with the accepted admission quotas, the right to enrol onto a Programme belongs to applicants who have achieved a better result in this qualification procedure according to the candidate selection criteria (PDS-16).

Article 10

Exemptions from attending classes and taking exams

An applicant who has accomplished academic achievements prior to enrolling onto the Programme that are in line with the doctoral study programme in terms of their significance and content may, at his/her request, be exempted from attending classes and taking exams on condition that he/she has:

- published at least three scientific papers in which he/she is the first or corresponding author in scientific journals belonging to the highest quality category in accordance with the current Ordinance on Conditions for Election to Scientific Titles of the National Council for Science, Higher Education and Technological Development (Ordinance on Conditions for Election), and which are thematically related to the doctoral study programme (the number of scientific papers is calculated as being equivalent to the author's contribution in accordance with the current Ordinance on Conditions for Election). At least one paper must be published in a scientific journal belonging to the Q1 or Q2 quartile;
- conducted scientific research at a domestic or foreign university or research institution that is not the institution offering the Programme or an institution in which they have been employed for a period of at least one semester. The stay is proven by an appropriate certificate from the institution, which shows that the stay had the aim of publishing the required papers;
- actively participated at a minimum of two scientific conferences that are international in nature in accordance with the definition of the Decision of the Rectors' Assembly on the necessary conditions for evaluating teaching and scientific-professional activities as part of the process of election to scientific and teaching titles. Active participation at an international scientific conference is understood as registered participation at the conference with an integral research paper (as a single author or co-author) published in the proceedings of the conference, and the holding of a presentation.

A decision on fulfilling the conditions for exemption from attending classes and taking exams is made by the Faculty Council upon the proposal of the Committee for Postgraduate Study Programmes and Science. This allows the applicant to start the Programme with 42 ECTS credits acquired in advance. Papers and activities on the basis of which the conditions for exemption from attending classes and taking exams are met cannot be counted twice, i.e. they cannot be counted as other extracurricular activities in the doctoral study programme. Credits (20 ECTS credits) that are collected as part of the Programme by fulfilling

programme requirements or by research activities during a stay at university or scientific institutions that are not members of the University need to be obtained through additional scientific-research activities.

Article 11

Additional programme requirements

The Head of Doctoral Study Programmes, in agreement with the head of the module, may require the applicant to take and pass a certain number of courses from the Faculty's graduate study programme that are relevant for the doctoral study programme on the basis of insights into the candidate's acquired competencies. These are determined on the basis of the Diploma Supplement, that is, the transcript of courses from the completed university graduate or undergraduate study programme.

ECTS credits obtained in this way are not counted as credits that the applicant is required to obtain as part of the doctoral study programme.

4 GUIDANCE THROUGH THE PROGRAMME

Article 12

Committee for Postgraduate Study Programmes and Science

The Committee for Postgraduate Study Programmes and Science is the key faculty body responsible for managing the Programme and improving its quality. Through the Head of Doctoral Study Programmes and the Quality Assurance Committee, it analyses all aspects of the quality of teaching at the doctoral study programme.

The members of Committee for Postgraduate Study Programmes and Science are appointed by the Faculty Council upon the proposal of the Dean. The Chair of the Committee for Postgraduate Study Programmes and Science is generally the Vice-Dean for Science.

The Committee for Postgraduate Study Programmes and Science:

- determines which applicants fulfil the conditions for admission onto Programmes and proposes to the Faculty Council a list of applicants to be approved for admission onto doctoral study programmes,
- generally meets one week before the session of the Faculty Council and reports to the Dean and the Faculty Council on its sessions,
- considers the implementation of Study Programmes and discusses issues related to their implementation,
- discusses doctoral theses submitted for evaluation,
- continuously analyses existing Study Programmes and proposes to the Faculty Council changes to Study Programmes and the modes of their implementation with the aim of continuously improving them,
- communicates supervisor reports to the Dean and the Faculty Council,
- proposes to the Faculty Council supervisors, co-supervisors and members of committees for the evaluation and defence of doctoral thesis topic and the doctoral thesis itself,
- proposes to the Faculty Council members of the Commission for Interviews with Applicants for Admission to Doctoral Study Programmes.

Article 13

Head of Doctoral Study Programmes

The Head of Doctoral Study Programmes

- is generally a member of the Committee for Postgraduate Study Programmes and Science,
- takes part in preparations related to the establishment, start and implementation of doctoral study programmes,
- attends to the preparation and implementation of doctoral study programmes,
- confirms the selection of courses upon the supervisor's proposal before the student enrolls on them,
- determines the class schedule in agreement with course instructors,
- proposes a supervisor and co-supervisors to the Committee for Postgraduate Study Programmes and Science,

- keeps track of student enrolments and reports to the Vice-Dean for Science,
- attends to documentation and other acts related to Study Programmes, takes part in the preparation of materials for the sessions of the Faculty Council when the Council discusses the Study Programmes,
- submits to the Dean an annual report on Study Programme activities on a PDS-4 form,
- sees that decisions and conclusions of the Faculty Council regarding Study Programmes are implemented,
- informs instructors about class schedules and sees that classes are held regularly,
- attends proceedings of defence of the doctoral theses' topics.

Article 14
Vice-Dean for Science

The Vice-Dean for Science

- attends to updating study programmes,
- convenes and chairs meetings of the Committee for Postgraduate Study Programmes and Science.

Article 15
Dean

The Dean

- proposes members of the Committee for Postgraduate Study Programmes and Science to the Faculty Council,
- accepts or rejects the annual report on student activities,
- accepts or rejects the annual report on supervisor activities,
- decides on whether reasons on the basis of which a student seeks a suspension of his/her obligations are justified.

Article 16
Faculty Council

The Faculty Council

- determines the proposal for doctoral study programmes and changes to them,
- decides on the appointment of course instructors on doctoral study programmes,
- decides on issuing a call for student enrolment,
- decides on implementing the Study Programmes for which a public call has been issued, whether there are enough applicants who meet the conditions for admission, and decides on the list of students who are approved for enrolment on Study Programmes,
- approves supervisors and co-supervisors upon the proposal of the Committee for Postgraduate Study Programmes and Science,
- approves members of the committees for the evaluation, i.e. defence of the topic of the doctoral thesis and the doctoral thesis itself,
- decides on members of the Commission for Interviews with Applicants for Admission to Doctoral Study Programmes,
- initiates the procedure and makes a decision on the suspension of the procedure for obtaining the academic degree of Doctor of Science,
- decides on other issues important for the organisation and implementation of doctoral study programmes in accordance with the Act and Statute.

Article 17
Supervisor and co-supervisor

Upon applying to a Study Programme, a student must, by prior agreement with the head of the module and potential supervisor, propose a supervisor who is a lecturer on the doctoral study programme that the student enrolls on. The supervisor's consent must be proven with a document which clearly shows that the lecturer agrees to be the student's supervisor.

Only a lecturer who at the moment of appointment meets the requirements for being a supervisor as prescribed by a special provision of the University of Rijeka can be appointed as a supervisor. When proposing a supervisor, it is necessary to enclose, alongside his/her consent, a curriculum vitae and documents showing that he/she fulfils the necessary conditions. The supervisor must have a publicly visible affiliation (University of Rijeka – Faculty of Engineering) in research and teaching databases (OrcID/Publons).

Upon the proposal of the Committee for Postgraduate Study Programmes and Science, the Faculty Council, when approving a student's enrolment, appoints a supervisor, who undertakes the obligation to provide professional guidance to the student during the study programme. During or after the application for the topic of the doctoral thesis, if there is a written reasoned need (e.g. interdisciplinary research, carrying out research in several institutions) the student may also be assigned a co-supervisor. Exceptionally, under the same conditions, a second co-supervisor can be appointed if he/she is an internationally appreciated expert employed at a foreign higher education and scientific research institution.

The co-supervisor must meet the same requirements as the supervisor. A supervisor selected in this way may also be an instructor from another doctoral study programme or from a doctoral study programme at another higher education institution. In both these cases, it is mandatory to choose a co-supervisor from the study programme that the student attends.

The supervisor / co-supervisor:

- assists the student in designing the doctoral study programme,
- together with the student determines a timeframe for taking exams,
- directs the student to the appropriate content of certain graduate study programme courses if in certain parts the student's knowledge is not at the level necessary for him/her to carry out his/her doctoral study programme,
- refers the student to relevant literature,
- instructs the student in applying appropriate scientific-research methods for his/her scientific-research work,
- assists the student in selecting and defining the topic of his/her doctoral thesis,
- is responsible for providing professional guidance to the student in writing his/her doctoral thesis,
- is responsible for establishing contact with the university or research institution at which the student should fulfil part of his/her obligations,
- in October, submits to the Head of Doctoral Study Programmes an annual report on the student's activities,
- ensures the necessary conditions for the scientific research of the doctoral student either as the head or associate of a scientific project, or in another way.

Article 18

Student

Each year in October, the student submits to the Dean a report on his/her activities through the Head of Doctoral Study Programmes on a PDS-5 form.

If it is justified, the student has the right to change his/her supervisor and/or doctoral thesis topic once during his/her study programme by submitting a written request and a statement from the previous supervisor on a PDS-6 form.

The student must have a publicly visible affiliation (University of Rijeka – Faculty of Engineering) in scientific-teaching databases (OrcID / Publons).

Article 19

Annual Report on Student Activities

Each year in October, the supervisor submits to the Dean a report on the student's activities through the Head of Doctoral Study Programmes on a PDS-7 form.

The report referred to in the preceding paragraph:

- evaluates the student's activities in the previous year,
- evaluates the student's progress on the Study Programme,
- assesses the further course of the Programme,
- highlights the student's particular achievements,
- points to the student's areas for improvement and indicates remedial measures,
- points to any possible non-compliance with the University Code of Ethics.

If the report is negative, the student should be acquainted with it before it is submitted to the Dean or the Faculty Council and also has the right to comment on it.

Article 20

Negative Annual Report

If the Dean or the Faculty Council accepts a negative report on student activities, the supervisor and co-supervisors are required to develop a plan of student activities for the following year and supervise during that year the implementation of the plan by means of regular monthly meetings with the student.

The report at the end of that year, with which the student must be acquainted and to which he/she has the right to respond, is submitted to the Dean or the Faculty Council.

5 IMPLEMENTATION OF THE PROGRAMME AND PROGRAMME OBLIGATIONS

Article 21

Programme obligations

The table below outlines programme obligations and the number of ECTS credits obtained for fulfilling these obligations.

| Programme obligation | Number of ECTS credits |
|----------------------------------|------------------------|
| class obligations | min. 42 |
| scientific and research activity | min. 138 |

Article 22

Class obligations

Class obligations are fulfilled by taking exams in the compulsory and elective courses prescribed by the study programme, which provide at least 42 ECTS credits.

A student may enrol on additional courses up to a maximum of 18 ECTS credits from another doctoral study programme available at the Faculty or on the basis of an agreement between the Faculty and the institution that offers the other study programme.

Courses enrolled on in this way can replace the Elective Courses. When enrolling on a course that replaces an Elective course, it should be taken into account that the course enrolled on must have at least 6 ECTS credits.

Article 23

Scientific and research activity

Scientific and research activity consists of defining the original hypothesis, determining the relationship between the hypothesis and previous knowledge in the field of research, a detailed elaboration of the hypothesis which shows in a logical way its applicability in the field of research, and providing evidence of the viability of the hypothesis.

Scientific and research activity is evaluated through compulsory and elective activities. Compulsory scientific and research activities amount to 90 ECTS credits. Compulsory and elective scientific research activities must amount to a total of at least 138 ECTS credits. The activities and the assigned credits are given in the tables below.

| Compulsory activities | ECTS credits |
|--|--------------|
| preparing and submitting the doctoral thesis topic | 8 |
| public defence of the doctoral thesis topic | 2 |
| two public presentations of research results | 6 |
| preparing and publishing an original scientific paper, with the student being the first author, in a foreign scientific journal* belonging to the Q1 or Q2 quartile. The paper must present the results of the entire or part of the student's own research carried out for the doctoral thesis. The supervisor must be a co-author of the paper, and the paper may have a maximum of 4 authors. | 20 |
| preparation and accepted positive evaluation of the doctoral thesis | 50 |
| public defence of the doctoral thesis | 4 |
| Total | 90 |

| Elective activities | ECTS credits |
|---|--------------|
| preparing and publishing an original scientific paper, with the student being the first author, in a foreign scientific journal* | 20xE |
| preparing and publishing an original scientific paper in a scientific journal* | 10xE |
| stay at another university or scientific institution** | 20 |
| preparing and publishing an original scientific paper in another scientific journal (which does not belong to the highest quality category in accordance with the valid rules on conditions for election) | 5xE (max 10) |
| preparing and publishing an integral article in the proceedings of an international scientific conference | 3 (max. 6) |
| presenting the article published in the proceedings of an international scientific conference at the same conference | 2 (max. 4) |

*Scientific journals that are relevant to the tables above are those that belong to the highest quality category in accordance with the applicable rules on conditions for election. The number of papers is calculated as being equivalent (E) to the author's contribution in accordance with the valid rules on conditions for election.

A paper published in a journal is one accepted for publication and that is visible on the journal's website and has an assigned and active DOI number. Affiliation (University of Rijeka – Faculty of Engineering) must be quoted on all papers.

** A stay at another university or scientific institutions outside the University must last at least three months and must be completed during the studies.

Article 24

Progress through the Programme

In the first and second semester of the Programme, the student enrolls on 7 courses via a PDS-17 form. A student may enroll on more elective courses if he/she, in agreement with his/her supervisor, estimates that this will contribute to his/her studies. The student is acquainted with the theoretical foundations of a particular subject area through classes on joint courses and compulsory and elective courses worth at least 42 ECTS credits.

The student begins his/her scientific and research activity by researching the state of the respective area and defining the hypothesis.

In the second semester, the student is required to give a public presentation on the results of his/her research. The student's supervisor must be present at the presentation. The student's supervisor submits a report on the presentation to the Head of Postgraduate Study Programmes. The public presentation can take place in two ways:

- at a scientific conference (e.g. a conference for doctoral students). In this case, it is necessary to enclose a confirmation of the given presentation. ECTS credits obtained in this way cannot be used additionally as ECTS credits obtained for the elective activity of participation in scientific conferences;
- at the Faculty in the presence of the public. After the public presentation, it is necessary to publish the presentation on the Faculty website in the Science section in an appropriate form (e.g. presentation with audio or video material). In this case, it is necessary to announce the date of the public presentation on the Faculty website at least 7 days in advance.

In the third semester, the student begins research activity on his/her doctoral thesis.

In the remaining semesters, the student is fully engaged in research work related to the doctoral thesis, which includes writing the thesis itself. In the fourth semester, the student is required to give another public presentation on the results of his/her research. The student's supervisor submits a report on this presentation in the same way as with the previous presentation.

Programme obligations of a certain semester may be fulfilled during another semester if this does not disturb the logical order of the study programme.

Article 25

Conditions for enrolment on further semesters

To enroll on the third semester, it is necessary to pass the courses from the first semester and thus obtain at least 30 ECTS credits, and to have a positively evaluated public presentation on research results.

To enroll on the fifth semester, it is necessary to have enrolled on the second year of study, passed all exams, received a positive evaluation of the second public presentation on research results during the first two years of study, and to have submitted the doctoral thesis topic.

In the sixth semester, it is necessary to complete and submit the doctoral thesis for evaluation. When the Faculty Council adopts a positive report of the Expert Committee for the Evaluation of the Doctoral Thesis, the student obtains 50 ECTS credits.

Article 26

Submitting the doctoral thesis topic

The student submits the topic of his/her doctoral thesis in agreement with his/her supervisor as a condition for enrollment on the third year of the Programme.

The submission of the topic contains the title of the doctoral thesis, an overview of the scientific discipline to which the thesis belongs, the research subject, purpose and aims, an explanation of the working hypotheses and theses, the research methods to be used, the general content, expected scientific contribution, application of research results, and a bibliography and other sources.

The doctoral thesis topic is submitted on a PDS-8 form.

The application of the topic should, in its form and content, clearly indicate that the candidate is capable of independent scientific and research activity based on scientific and research methodology.

The submission of the doctoral thesis topic must also include the written consent of the supervisor.

Article 27

Evaluation and defence of the doctoral thesis topic

The student publicly defends the topic of his/her doctoral thesis before the Committee for the Evaluation of the Doctoral Thesis Topic, which consists of an odd number of members who are employed in a scientific-teaching or scientific position or elected as adjunct lecturers or adjunct scientists, who are recognised experts in the area in which the doctoral thesis topic has been proposed. The members are appointed by the Faculty Council upon the proposal of the Committee for Postgraduate Study Programmes and Science, of which at least one is from a university or scientific institution outside the University. The supervisor and co-supervisor must not be members of the Committee for the Evaluation of the Doctoral Thesis Topic. The supervisor (or co-supervisor) and the Head of Doctoral Study Programmes (or Vice-Dean for Science) must also be present at the defence of the topic.

The date and place of defence of the doctoral thesis topic must be announced at least one week in advance on the Faculty and University websites.

The public defence of the doctoral thesis topic can also be carried out through online communication systems in real time (network platforms for remote access).

The Committee for the Evaluation of the Doctoral Thesis Topic has the task of determining whether the proposed topic corresponds, in its content and scope, to the required level of the doctoral study programme, whether it is possible to carry out original scientific research that meets the international criteria of doctoral thesis quality on the topic, and whether the student, based on his/her own academic qualities and knowledge acquired during his/her study programme, is capable of achieving the set goal with the appropriate assistance of the supervisor.

The Committee for the Evaluation of the Doctoral Thesis Topic is required to submit a report on a PDS-9 form to the Faculty Council within one month of the public defence. This report needs to contain, among other things, a conclusion that includes an evaluation of the doctoral thesis topic submission and defence, with an explanation of the evaluation and a proposal to the Faculty Council.

Upon the proposal of the Committee for the Evaluation of the Doctoral Thesis Topic, the Faculty Council may ask the student to amend his/her submission. If the Committee evaluates the submission of the topic negatively after having requested amendments, the Faculty Council will make a decision to suspend the procedure for obtaining the academic title of Doctor of Science and inform the student of this.

The Faculty Council is required to make a decision on either accepting or rejecting the topic of the doctoral thesis no later than two months from the day of submitting the report of the Committee for the Evaluation of the Doctoral Thesis Topic, or at the latest within six months from the day of the submission of the initial application and to inform the student of it.

6 DOCTORAL THESIS AND COMPLETION OF THE PROGRAMME

Article 28

Completion of the Programme

The Programme is completed upon the passing of the exams on all enrolled courses, fulfilling all other obligations of the programme, and the successful completion and public defence of the doctoral thesis.

Article 29

Doctoral thesis

The doctoral thesis is an original scientific and research work that thoroughly addresses a specific issue within a single branch of science or several branches, and by which the student proves that he/she is capable of conducting independent research, and which makes a significant, internationally recognised contribution to the scientific area of Technical Sciences.

The scientific contribution must be clearly and explicitly explained in the introduction to the doctoral thesis. In addition to this explanation, the introduction must also contain a detailed overview of previous research that is relevant to the doctoral thesis topic. The contribution of the thesis must emphasise its advantages and differences in relation to existing achievements.

The student writes his/her doctoral thesis under the supervision of a supervisor. The doctoral thesis is public.

The doctoral thesis can be submitted for evaluation and accepted for defence as a monograph (the traditional model) or it can be based on published research papers (the Scandinavian model).

The length of the traditional doctoral thesis model is between 100 and 150 pages, with appendices of no more than 50 pages. In exceptional cases, for a larger-scale doctoral thesis, it is necessary to seek the written permission of the Committee for Postgraduate Study Programmes and Science with a detailed explanation of the request.

A doctoral thesis based on published scientific papers (the Scandinavian model) represents a collection of thematically related published scientific papers, accompanied by a critical review chapter, discussion, conclusion and the review of relevant literature. The minimum number of original scientific papers that are combined into a doctoral thesis is five in which the student is the first author of at least three papers and a co-author of the remaining papers. In the qualifying papers in which the student is a co-author, the other co-authors may only be his/her supervisor and co-supervisor.

The submitted papers in a doctoral thesis based on published papers need to form a substantive and logical whole and be directly related to the topic of the doctoral thesis. All of these need to be original scientific papers published in foreign scientific journals in the area of Technical Sciences which belong to the highest quality category in accordance with the applicable Ordinance on Conditions for Election. At least two papers should belong to the Q1 or Q2 quartile. Papers may not be published in journals in the publishing house or co-publishing house of the head of the study programme and the home institution of employment. At most one paper may be published in a journal of the Republic of Croatia. Affiliation (University of Rijeka – Faculty of Engineering) must be quoted on all papers.

The format of doctoral theses and other details are prescribed by the University of Rijeka Regulations on the Format and Binding of Doctoral Theses and the University of Rijeka Guidelines for Formatting and Binding Doctoral Theses.

The student is personally responsible for obtaining written permission to partially or completely reproduce previously published copyrighted material. This refers to the student's own previously published results for which he/she no longer owns copyright, but also to work that has been published by other researchers.

The doctoral thesis may be written in Croatian or English.

Article 30

Request for evaluation of the doctoral thesis

A student who has passed all the exams on his/her doctoral study programme and has fulfilled all other prescribed obligations and has obtained at least 126 ECTS credits (the missing 54 ECTS credits refer to the accepted positive evaluation of the doctoral thesis and its public defence), submits a written request for the evaluation of the doctoral thesis to the Head of Doctoral Study Programmes.

The following must be attached to the request:

- curriculum vitae on a standardised *Europass* form or PDS-2 form,
- written consent of the supervisor and co-supervisor that the paper meets the criteria for a doctoral thesis together with the proposal for the members of the Committee for Evaluation,
- report on verification of the authenticity of the doctoral thesis signed by the supervisor and co-supervisor,
- unbound copy of the doctoral thesis and an electronic version of the thesis,
- official transcript of grades for exams passed,
- short summary of the doctoral thesis in Croatian and English (20-30 lines),
- evidence of the fulfilment of obligations under Articles 22, 23 and 24,

- confirmation that the title of the doctoral thesis has been proofread,
- confirmation that tuition fees have been paid,
- signed Statement of Permission for the Publication of the Doctoral Thesis (PDS-10 form) and a Statement on Permission for the Online Publication and Use of the Digital Version of the Thesis in accordance with generally accepted international standards and rules on open access to science that ensure students retain copyright,
- a CD, DVD or USB memory stick with all the documentation in an acceptable electronic format.

Article 31

Committee for the Evaluation of the Doctoral Thesis

A doctoral thesis is evaluated by the Committee for the Evaluation of the Doctoral Thesis, which consists of an odd number of members in a scientific-teaching or scientific position, or elected as adjunct teachers or adjunct scientists, and are recognised experts in the area of the doctoral thesis topic. The members are appointed by the Faculty Council upon the proposal of the Committee for Postgraduate Study Programmes and Science, of which at least one is from a university or scientific institution outside the University. The supervisor and co-supervisor must not be members of the Committee for Evaluation of the Doctoral Thesis. The appointment of a member of the Evaluation Committee from the international scientific community is encouraged.

A proposal for the evaluation of the doctoral thesis can be: ‘positive’, ‘negative’ or ‘returned for revision’. The committee decides on the evaluation of the doctoral thesis by a majority vote. Each member of the committee prepares an independent report. The recommended length of the individual report is one to two pages of text. The members of the committee may evaluate the thesis as positive without amendments or may propose minor amendments to the thesis that contribute to its positive evaluation and state this in their report. If minor amendments cannot contribute to a positive evaluation, the report shall include a negative evaluation with an explanation or a ‘returned to revision’ remark with revision instructions.

The chair of the committee directs the student to any potential recommended minor amendments to the thesis and checks that these have been implemented, prepares a joint report on the evaluation of the doctoral thesis and submits it to the Faculty Council no later than two months after receiving the doctoral thesis. The joint report of the committee is submitted on a PDS-11 form with individual reports attached to it. A new version of the doctoral thesis, prepared in accordance with the instructions of the members of the Committee for Evaluation, is also submitted to the Faculty Council for evaluation.

The report of the Committee for the Evaluation of the Doctoral Thesis must contain a conclusion which explicitly states the original scientific contribution of the doctoral thesis, and which is available to the members of the Faculty Council at the time of the sending of the invitation to the session. At the session of the Faculty Council, the chair of the committee submits a short oral report with an emphasis on the original scientific contribution of the doctoral thesis.

If the Faculty Council finds that the report of the Committee for the Evaluation of the Doctoral Thesis does not provide a sound basis for making a decision on the evaluation of the doctoral thesis, it may appoint new members to the Committee for the Evaluation of the Doctoral Thesis and request that they submit separate reports, or it may appoint a new committee and request that it evaluates the doctoral thesis again and submits a report.

Article 32

Amendments and decision on the evaluation of the doctoral thesis

Upon the proposal of the Committee for the Evaluation of the Doctoral Thesis, the Faculty Council may request that the student amend the doctoral thesis. In that case, the evaluation procedure is repeated in the previously described manner before the Evaluation Committee.

If the Faculty Council accepts a negative evaluation of the Committee even after the thesis has been amended as requested, the Faculty Council makes a decision to suspend the procedure for obtaining the academic degree of Doctor of Science and informs the student thereof.

When the Faculty Council accepts a positive evaluation of the doctoral thesis, it generally appoints the Committee for the Defence of the Doctoral Thesis and the secretary for the defence of the doctoral thesis at the same session and also determines the day and place of the defence of the doctoral thesis, taking into account the supervisor's and student's proposal.

The Committee for the Defence of the Doctoral Thesis consists of members appointed under the same conditions as the members of the Committee for the Evaluation of the Doctoral Thesis.

Article 33

Defence of the doctoral thesis

At least 8 days before the day set for the defence, the first and last name of the student, the title of the doctoral thesis, the members of the Committee for the Defence of the Doctoral Thesis, and the time, day and place of the defence are announced on the Faculty's website. The doctoral thesis must be made available to the public by being published on the official website of the Faculty at least 30 days before the date of the defence of the doctoral thesis.

If the student fails to engage in the defence of his/her doctoral thesis within the period referred to in the previous paragraph without a reasonable explanation, the Dean, upon the proposal of the Committee for the Defence of the Doctoral Thesis, suspends the procedure for obtaining the academic degree of Doctor of Science and informs the student.

A doctoral thesis may only be defended once.

When the results of the doctoral thesis research include an innovation suitable for protection in terms of intellectual property rights, the student may, with the consent of his/her supervisor, request before submitting the doctoral thesis for evaluation that the doctoral thesis be treated as confidential until the moment necessary to fulfil the requirements for legal protection.

If there is a need to protect intellectual property, the Faculty Council can make a decision to exclude the public from the defence of the doctoral thesis and postpone its publication to protect the intellectual property for a period of up to three years or until the publication of data in registering the intellectual property rights. The request to postpone a public defence is submitted on a PDS-12 form.

Article 34

Proceedings of the defence of the doctoral thesis

The defence of the doctoral thesis is public, and minutes are taken.

As a rule, the defence is held in the premises of the Faculty, in Croatian or English. In the case of joint or double doctoral theses, the defence can be held at another university.

The public defence of the doctoral thesis can also be carried out through online communication systems in real time (network platforms for remote access).

The Chair of the Committee for the Defence of the Doctoral Thesis commences the proceedings of the defence of the doctoral thesis, presents general information about the student and the results of his/her research, and reads the reports on the basis of which the Faculty Council initiated the proceedings of the defence of the doctoral thesis.

After the report of the Chair of the Committee for the Defence of the Doctoral Thesis, the student presents the content of the doctoral thesis and explains the conclusions he/she has reached in the work for a maximum of 45 minutes.

After the student's presentation, the Chair of the Committee for the Defence of the Doctoral Thesis gives the floor to the members of the committee, and later to others present, who ask questions and comment on the work and, if necessary, ask for clarification regarding the doctoral thesis and its defence.

The student is required to answer the questions asked and provide any required clarification. At his/her request, the student may be granted a short break to prepare his/her answers.

When the Committee for the Defence of the Doctoral Thesis determines that the subject of the defence has been sufficiently discussed, the Chair of the Committee concludes the defence, and the Committee retires to deliberate.

At the deliberation, the Committee for the Defence of the Doctoral Thesis votes to reach a decision on the result of the defence. Upon returning from the deliberation, the decision is publicly announced by the Chair of the Committee with a comment on whether the candidate has defended his/her doctoral thesis by unanimous decision of the Committee, by majority vote, or has not defended it.

The defence protocol is regulated by a PDS-13 form.

Article 35

The binding of the doctoral thesis and publication

A sheet is attached to the doctoral thesis with information about the author and the members of the Committee for the Evaluation and Defence of the Doctoral Thesis (I Author, II Doctoral thesis, III Members of the Committee for the Evaluation of the Doctoral Thesis, and IV Members of the Committee for the Defence of the Doctoral Thesis) and the date of the defence. After the defence of the thesis, the members of the Defence Committee sign this sheet.

At least 8 days before the defence, the student submits to the Head of Doctoral Study Programmes bound copies of the doctoral thesis, which are then submitted to the secretary. The secretary collects the signatures of the members of the Committee for the Defence of the Doctoral Thesis and submits the following copies: 3 for the Library, 1 for each member of the Defence Committee, 1 for the supervisor and 1 for the co-supervisor.

The Faculty has to publish the doctoral thesis within 30 days from the day of the defence in the national repository or the Faculty's repository.

Article 36

Minutes of the defence of the doctoral thesis

Minutes of the public defence of the doctoral thesis are taken on a PDS-14 form. These contain basic information on the doctoral student and doctoral thesis, a description of the course of the defence and the questions asked, and the conclusion of the Defence Committee and an indication of whether the academic degree of Doctor of Science in the given scientific area and field has been obtained.

Article 37

Secretary of the Committee for the Defence of the Doctoral Thesis

The secretary of the committee has the following duties:

- organising activities related to providing the conditions for setting up the defence of the doctoral thesis,
- preparing documents for the defence proceedings for the Chair of the Committee for the Defence of the Doctoral Dissertation,
- preparing forms regarding the protocol and minutes of the defence,
- before the commencement of the defence, instructing those present on the rules of conduct during the defence,
- performing all duties related to the preparation of documentation on the defence of the doctoral thesis,
- distributing copies of the doctoral thesis,
- performing all other planned tasks in agreement with the Chair of the Committee for the Defence of the Doctoral Thesis.

Article 38

Doctoral thesis with delayed publication

When, as part of the doctoral study programme, research is carried out for the needs of the business sector or in cooperation with a research centre in the business sector or for the needs of or in cooperation with state institutions in charge of defence and security, or in the case referred to in Article 33 of these Regulations, the Faculty Council may exclude the public from the defence of the doctoral thesis and postpone its publication to protect intellectual property for a period of up to three years or until the publication of data in registering the intellectual property rights.

Members of the Committee for the Evaluation of the Doctoral Thesis and the Committee for the Defence of the Doctoral Thesis from whose proceedings the public has been excluded and whose publication has been delayed, before receiving a copy of the doctoral thesis, sign a statement on the confidentiality of the data in the thesis. This statement is also signed by other participants who have access to the text of the thesis in the process of its evaluation and defence.

Article 39

Doctor of Science degree

On the basis of a positive decision of the Committee for the Defence of the Doctoral Thesis, the academic degree of Doctor of Science is acquired with an indication of the scientific area.

The Faculty issues the diploma of the obtained Doctor of Science degree in printed and digital form free of charge, in Croatian and English, as well as the Diploma Supplement that confirms that the he/she has passed the exams with a certain grade and that also contains other information necessary for understanding the acquired qualification.

Article 40

Register of Doctors of Science

The Faculty keeps a special record on the defence of doctoral theses in the form of a register.

The Register of Doctors of Science contains the following information: last name (first name of a parent) and first name, place and date of birth, previously completed university undergraduate and graduate studies, scientific area and field, doctoral thesis title, name of supervisor (co-supervisor), members of the Committee for the Evaluation of the Doctoral Thesis, date of decision on accepting the doctoral thesis, members of the Committee for the Defence of the Doctoral Thesis, date of defence, evaluation of doctoral thesis defence, scientific area and field in which the student has acquired the academic degree of Doctor of Science, and the title and start date of the doctoral study programme.

7 STUDENT RIGHTS AND OBLIGATIONS

Article 41

Contractual relations

A study contract is concluded with an applicant who exercises the right to enrol on the Programme, which determines mutual rights and obligations.

An integral part of the Study Contract is the paragraph on the publication of the doctoral thesis on the official website of the Faculty at least 30 days before the date of the defence of the doctoral thesis and the paragraph on the publication of the doctoral thesis within 30 days from the day of the defence in the national repository or Faculty's repository, in accordance with the applicable legislation, with the exceptions defined in Article 33 and Article 35 of these Regulations.

Article 42

Student rights and obligations

The student has rights and obligations in accordance with the applicable legislation and general acts.

Article 43

Suspension of student obligations

Student rights and obligations are suspended during pregnancy and maternity leave, during prolonged illness, and in other justifiable cases.

The Dean decides on whether a reason is justified on the basis of a request submitted by the student through the Head of Doctoral Study Programmes.

Article 44

Continuation of the Programme after termination

A student whose student status has been terminated may continue on the Programme if the Faculty Council approves such continuation on the basis of the opinion and proposal of the Committee for Postgraduate Study Programmes and Science.

A student who continues on the Programme after his/her status has been terminated is required to accept all changes to the Regulations and Study Programme that have occurred during his/her absence and to cover the costs of the Programme in line with the conditions of the call for the year group with which he/she is continuing the Programme.

On the basis of the decision of the Head of Doctoral Study Programmes, all exams passed by the student referred to in the previous paragraph and other programme obligations undertaken by him/her that are identical to those in the current valid programme may be recognised.

Article 45

Transferring between studies / study programmes

Transferring between studies / study programmes is carried out by applying to a public call for enrolment on a study programme in accordance with Article 6. The documents referred to in Article 8 that have previously been submitted by an applicant do not need to be re-submitted. However, the following additional documents must be submitted:

- a request to change study programme,
- a request for the recognition and evaluation of previously acquired qualifications,
- an explanation of the need and justification for such a proposal,
- the opinion of the supervisor on the previous study programme regarding the transfer (if it cannot be obtained, this should be stated in the request),
- a list of the activities carried out and obtained ECTS credits on the previous study programme,
- next to the titles of previous courses enrolled on, state: the title of the same course on the new study programme or the title of its successor or the title of another course on the new study programme that will replace it,
- next to papers published during the programme that can be regarded as representing the results of research that the doctoral student will also conduct as part of the new study programme, a brief explanation why these should be recognised,
- the doctoral student's new sustainable research plan (PDS-15 form) adjusted to the expected duration of the continuation of the programme.

The procedure for recognising and evaluating prior learning is carried out in accordance with the provisions of the Regulations on the Recognition and Evaluation of Prior Learning of the University of Rijeka.

If such enrolment is approved, the candidate will be issued with a decision on enrolment by means of transferring from another study programme. This decision will include a list of previously completed obligations that are accepted as accomplished activities as part of the study programme that the applicant wishes to enrol on. These may be: class obligations (passed courses that are the same on both study programmes or successors to the courses if the study programme has been changed), stays at other research institutions, and scientific papers published during the previous study programme which can be regarded as representing research results as part of the new study programme.

8 TRANSITIONAL AND FINAL PROVISIONS

Article 46

Completed programme obligations and obtained ECTS credits of current students

All fulfilled programme obligations, corresponding ECTS credits, and the semester of the Programme they have enrolled on are recognised for students who are already enrolled on the Programme on the date of the adoption of these Regulations (current students).

Current students are required to fulfil all of the programme obligations in the manner determined by the study programme on which they enrolled in the Programme.

Article 47

Enrolment of current students on the following semester of the Programme

Current students continue with the Programme according to the study programme valid at the time of their enrolment.

Article 48

Appendices

An integral part of these Regulations are:

- PDS-1 – Application Form
- PDS-2 – Curriculum Vitae
- PDS-3 – Reference – Supervisor’s Consent
- PDS-4 – Annual Report on Programme Activities
- PDS-5 – Annual Doctoral Candidate Report
- PDS-6 – Request to Change Topic – Supervisor
- PDS-7 – Annual Supervisor Report
- PDS-8 – Submission of the Doctoral Thesis Topic
- PDS-9 – Evaluation of the Doctoral Thesis Topic
- PDS-10 – Statement of Permission for Publication of the Doctoral Thesis
- PDS-11 – Report on Evaluation of the Doctoral Thesis
- PDS-12 – Request to Postpone Public Defence
- PDS-13 – Protocol of Defence of the Doctoral Thesis
- PDS-14 – Minutes of Defence of the Doctoral Thesis
- PDS-15 – Doctoral Student’s Sustainable Research Plan
- PDS-16 – Selection of Applicants for Doctoral Study Programme
- PDS-17 – Course Enrolment

Article 49

Interpretation of Regulations

The interpretation of the provisions of these Regulations is provided by the Dean of the Faculty through his/her decisions or binding instructions.

Article 50

Changes and amendments to Regulations

Changes and amendments to these Regulations are made in the manner prescribed for their adoption.

Article 51

Entry into force

These Regulations enter into force on the day following the day of their being posted on the notice board of the Faculty. With the entry into force of these Regulations, the Regulations of 26 March 2021, CLASS: 003-05/21-01/01, REG. NO.: 2170-57-01-21-1, cease to be valid.

These Regulations enter into force for the 2023/2024 academic year.

As an exception to the previous paragraph, for students previously enrolled on the programme, the Regulations that were valid at the time of enrolment on the programme will be applied.

DEAN:

Prof. D. Sc. Lado Kranjčević

CLASS: 011-02/23-01/4
REG. NO.: 2170-1-43-01-23-1
In Rijeka, 27 October 2023

These Regulations were posted on the Faculty's notice board on 27 October 2023 and entered into force on 28 October 2023.

SECRETARY GENERAL:

Tomo Vergić, LL.M