

Faculty / Study / Study plans and requirements of subject-area boards / Requirements of subject-area boards / Minimal requirements for ISP of PhD students enrolled in the academic year 2023/2024

Minimal requirements for ISP of PhD students enrolled in the academic year 2023/2024

Study programme and form of study	Requirements
<p>Analytical Chemistry (P0531D130036)</p> <p>full-time</p>	<p>The obligatory part of the individual study plan (ISP) is four examinations in specialized subjects which the doctoral student chooses in agreement with the supervisor from the offer of all departments of the chemical section and other departments of the Faculty of Science of Charles University or from other universities in the Czech Republic and abroad. Selected courses must be approved by the Subject-Area Board.</p> <p>It is also obligatory to pass a certified English examination, e.g. FCE (evaluation, A, B, C), Toefl. These duties must be fulfilled before applying for the state doctoral examination.</p> <p>Study obligations and their fulfillment are specified in the individual study plan. During doctor studies it is obligatory to complete an internship or a certain period of study at a foreign workplace (at least 3 months) unless there are serious reasons to prevent it.</p> <p>Students report on the results of their experimental work at least once a year before the plenary session of the department (special seminar, department seminar) or at the Department of International Conference "Modern Analytical Chemistry" or another international conference.</p> <p>When submitting a doctoral thesis, at least two original publications on the topic of the doctoral thesis in impacted journals are required, and a Czech or other patent granted is considered a full-fledged publication. Author's extended summary (autoreferat) of the dissertation is not required.</p> <p>Regular attendance at the workplace and carrying out experimental work are necessary.</p> <p>At the end of each year of study, students prepare a self-assessment report for trainers, which may be requested by the Subject Council if necessary.</p>
<p>Analytical Chemistry (P0531D130036)</p> <p>combined</p>	<p>The obligatory part of the individual study plan (ISP) is four examinations in specialized subjects which the doctoral student chooses in agreement with the supervisor from the offer of all departments of the chemical section and other departments of the Faculty of Science of Charles University or from other universities in the Czech Republic and abroad. Selected courses must be approved by the Subject-Area Board.</p> <p>It is also obligatory to pass a certified English examination, e.g. FCE (evaluation, A, B, C), Toefl. These duties must be fulfilled before applying for the state doctoral examination.</p> <p>Study obligations and their fulfillment are specified in the individual study plan. During doctor studies it is obligatory to complete an internship or a certain period of study at a foreign workplace (at least 3 months) unless there are serious reasons to prevent it.</p> <p>Students report on the results of their experimental work at least once a year before the plenary session of the department (special seminar, department seminar) or at the Department of International Conference "Modern Analytical Chemistry" or another international conference.</p> <p>When submitting a doctoral thesis, at least two original publications on the topic of the doctoral thesis in impacted journals are required, and a Czech or other patent granted is considered a full-fledged publication. Author's extended summary (autoreferat) of the dissertation is not required.</p>

Study programme and form of study	Requirements
	<p>Regular attendance at the workplace and carrying out experimental work are necessary.</p> <p>At the end of each year of study, students prepare a self-assessment report for trainers, which may be requested by the Subject Council if necessary.</p>
<p>Animal Physiology (P0511D030032) full-time</p>	<p>Study obligations</p> <p>Individual study plan (ISP) contains at least two examinations in specialized subjects at the master's level that are related to the dissertation topic. Foreign language examination is not a mandatory requirement. However, ISP can be extended by foreign language examination if recommended by the supervisor or by the subject area board. All these examinations should be done during the first two years of study. The state doctoral examination of Animal Physiology should be completed before the end of the third year of study.</p> <p>Requirements for creative activity</p> <p>Publishing at least two articles in international peer-reviewed journals related to the dissertation topic.</p> <p>Presenting results at a seminar or adequate conference.</p> <p>Writing a thesis either in the classic format ("a monograph thesis") or in the cumulative format ("an article-based thesis"). The dissertation thesis in the classic format, which consists of an Abstract in Czech and in English, an Introduction and a detailed Background (literature overview), Aims of the thesis, Materials and methods, Discussion, Conclusions, and a List of references, must contain at least two original scientific articles related to the dissertation topic that were had been accepted for publication in journals with IF. The doctoral student must be the lead author of at least one of these articles. In exceptional cases, if the doctoral student is the lead author of an original scientific article with IF over 5, only one such article may be sufficient. The admissibility of one publication instead of two publications as a base for the dissertation is always judged by the subject area board. A dissertation in cumulative format presents a set of at least four original scientific articles related to the dissertation topic that were accepted for publication in journals with IF. The doctoral student must be the lead author of at least two of these articles. If the doctoral student is the lead author of an original scientific article with IF over 5, only three articles may be sufficient. If the doctoral student is the lead author of two original scientific articles with IF over 5, only these two articles may be sufficient. The admissibility of lower number of publications as a base for the dissertation is always judged by the subject area board. The cumulative dissertation must present a commentary of at least 20 pages containing an Abstract in Czech and in English, an Introduction and a detailed Background (literature overview), Aims of the thesis, a brief List of methods, a brief summary Results, Discussion, Conclusions, and a List of references. The authorship of the requested number of publications is a required condition for dissertation submission and defense but it does not guarantee the award of a doctoral degree. The dissertation can be written in Czech or English.</p> <p>Completion of an international internship</p> <p>According to the regulations of doctoral study programmes at the UK, students are obliged to pass part of the study (at least one month) at a foreign institution, or participate in an international creative project with results published or presented abroad, or otherwise be involved in direct participation in international cooperation. Longer internship is advisable but not required.</p> <p>Further study obligations</p> <p>Active participation in relevant international conferences.</p> <p>Potential participation in practical training of bachelor or master students and leading and/or evaluating the work of undergraduate students. Teaching activities of doctoral students are always coordinated with the supervisor.</p>
<p>Animal Physiology (P0511D030032)</p>	<p>Study obligations</p>

Study programme and form of study	Requirements
combined	<p>Individual study plan (ISP) contains at least two examinations in specialized subjects at the master's level that are related to the dissertation topic. Foreign language examination is not a mandatory requirement. However, ISP can be extended by foreign language examination if recommended by the supervisor or by the subject area board. All these examinations should be done during the first two years of study. The state doctoral examination of Animal Physiology should be completed before the end of the third year of study.</p> <p>Requirements for creative activity</p> <p>Publishing at least two articles in international peer-reviewed journals related to the dissertation topic.</p> <p>Presenting results at a seminar or adequate conference.</p> <p>Writing a thesis either in the classic format ("a monograph thesis") or in the cumulative form ("an article-based thesis"). The dissertation thesis in the classic format, which consists of an Abstract in Czech and in English, an Introduction and a detailed Background (literature overview), Aims of the thesis, Materials and methods, Discussion, Conclusions, and a List of references, must contain at least two original scientific articles related to the dissertation topic that were had been accepted for publication in journals with IF. The doctoral student must be the lead author of at least one of these articles. In exceptional cases, if the doctoral student is the lead author of an original scientific article with IF over 5, only one such article may be sufficient. The admissibility of one publication instead of two publications as a base for the dissertation is always judged by the subject area board. A dissertation in cumulative format presents a set of at least four original scientific articles related to the dissertation topic that were accepted for publication in journals with IF. The doctoral student must be the lead author of at least two of these articles. If the doctoral student is the lead author of an original scientific article with IF over 5, only three articles may be sufficient. If the doctoral student is the lead author of two original scientific articles with IF over 5, only these two articles may be sufficient. The admissibility of lower number of publications as a base for the dissertation is always judged by the subject area board. The cumulative dissertation must present a commentary of at least 20 pages containing an Abstract in Czech and in English, an Introduction and a detailed Background (literature overview), Aims of the thesis, a brief List of methods, a brief summary Results, Discussion, Conclusions, and a List of references. The authorship of the requested number of publications is a required condition for dissertation submission and defense but it does not guarantee the award of a doctoral degree. The dissertation can be written in Czech or English.</p> <p>Completion of an international internship</p> <p>According to the regulations of doctoral study programmes at the UK, students are obliged to pass part of the study (at least one month) at a foreign institution, or participate in an international creative project with results published or presented abroad, or otherwise be involved in direct participation in international cooperation. Longer internship is advisable but not required.</p> <p>Further study obligations</p> <p>Active participation in relevant international conferences.</p> <p>Potential participation in practical training of bachelor or master students and leading and/or evaluating the work of undergraduate students. Teaching activities of doctoral students are always coordinated with the supervisor.</p>
<p>Anthropology and Human Genetics (P0511D030036)</p> <p>full-time</p>	<p>Mandatory Individual Study Plan subjects are determined individually with regard to the topic of the dissertation work.</p> <p>An English language certificate is required (at the very least ÚJOP UK).</p> <p>The dissertation work may be submitted in two forms of presentation.</p> <p>The classic dissertation form is in-depth text supplemented with two publications in impact journals in the WOS/WOSS database:</p>

Study programme and form of study	Requirements
	<p>1st publication: the doctoral student is the lead/corresponding author; the publication summarizes the results or partial results defended in the dissertation work. The published results overlap with the dissertation in terms of the tables used, graphs or findings.</p> <p>2nd publication: the doctoral student is a co-author; the publication need not necessarily directly concern the dissertation work, but there must be at least a clear indirect relationship to the research topic.</p> <p>Summary form of a dissertation work (i.e. dissertation consisting of a summary):</p> <p>A total of 5 publications in impact journals from the WOS/WOSS database are required, 2 of which publish results where the doctoral student is the lead author. In the other three the student may be a co-author. The body of the article must form a coherent concept reflecting the structure of the research work on the dissertation topic. This concept will be reflected in the summary of the dissertation work.</p> <p>For all publications submitted for the defense of the dissertation work it is necessary to show affiliation to the faculty of anthropology and human genetics at the Faculty of Science, Charles University in Prague.</p> <p>The department tries to enable doctoral students to develop their teaching skills and participate in leading specialized training. Students will then work with the supervisors of lectures and training sessions.</p> <p>Students are recommended to participate in an internship program abroad.</p> <p>Students are recommended to present their results at scientific conferences.</p> <p>Students will at the very least also present their results at a department seminar at the conclusion of their studies.</p> <p>The student will also participate in the academic life of the department and training workplace especially by attending seminars or other professional activities of the department and training workplace.</p>
<p>Anthropology and Human Genetics (P0511D030036) combined</p>	<p>Mandatory Individual Study Plan subjects are determined individually with regard to the topic of the dissertation work.</p> <p>An English language certificate is required (at the very least ÚJOP UK).</p> <p>The dissertation work may be submitted in two forms of presentation.</p> <p>The classic dissertation form is in-depth text supplemented with two publications in impact journals in the WOS/WOSS database:</p> <p>1st publication: the doctoral student is the lead/corresponding author; the publication summarizes the results or partial results defended in the dissertation work. The published results overlap with the dissertation in terms of the tables used, graphs or findings.</p> <p>2nd publication: the doctoral student is a co-author; the publication need not necessarily directly concern the dissertation work, but there must be at least a clear indirect relationship to the research topic.</p> <p>Summary form of a dissertation work (i.e. dissertation consisting of a summary):</p> <p>A total of 5 publications in impact journals from the WOS/WOSS database are required, 2 of which publish results where the doctoral student is the lead author. In the other three the student may be a co-author. The body of the article must form a coherent concept reflecting the structure of the research work on the dissertation topic. This concept will be reflected in the summary of the dissertation work.</p>

Study programme and form of study	Requirements
	<p>For all publications submitted for the defense of the dissertation work it is necessary to show affiliation to the faculty of anthropology and human genetics at the Faculty of Science, Charles University in Prague.</p> <p>The department tries to enable doctoral students to develop their teaching skills and participate in leading specialized training. Students will then work with the supervisors of lectures and training sessions.</p> <p>Students are recommended to participate in an internship program abroad.</p> <p>Students are recommended to present their results at scientific conferences.</p> <p>Students will at the very least also present their results at a department seminar at the conclusion of their studies.</p> <p>The student will also participate in the academic life of the department and training workplace especially by attending seminars or other professional activities of the department and training workplace.</p>
<p>Applied Geology (P0532D330017) full-time</p>	<p>The student must pass at least three examinations in specialized subjects at the masters level or above, a greater number of subjects may be taken based on the supervisor's recommendations and the student's own needs. The study plan may also include short courses given in the CR or abroad. A language test is not required if the supervisor acknowledges that the student's foreign language skills (generally English) are sufficient. However, the ISP may be expanded to include a language test at the recommendation of the supervisor or subject area board. A language test is not required if the supervisor acknowledges that the student's foreign language skills (generally English) are sufficient. However, the ISP may be expanded to include a language test at the recommendation of the supervisor or subject area board. An integral part of studies is participation in institute or section seminars and similar scientific activities of the faculty. For four-year studies the study plan should include study abroad or a research stay (professional internship) at a foreign workplace (as recommended by the supervisor) for a period of at least 6 months. The subject area board will regularly check that study obligations are being met each year when 2nd year students and above present the current results of their ongoing dissertation work. A dissertation in classic format is a monograph manuscript containing an introduction to the topic, a critical overview of the current state of knowledge, an elaboration of research questions, an overview of the methods used, results achieved and their discussion, a summary and assessment of scientific contribution. A monograph dissertation must have at least one article published or accepted for publication in a professional peer-reviewed journal with an IF (listed in the ISI Web of Science database); for this work the student must be the lead (primary) author. Appendices may only include publications where the student clearly demonstrates an affiliation to CU FS, and possibly also lists sources of financing as per the instructions of the supervisor (e.g. in case of a Charles University Grant Agency (GAUK) research project). The anticipated scope of this dissertation format is 150-250 pages. A dissertation in cumulative format contains an introduction accompanying scientific publications. The introduction defines and critically evaluates the scientific problem addressed, defines the research questions, the manner in which they are approached, summarizes the main results which were achieved in individual publications and their interrelationship. Further, it contains a thorough discussion of the research results and possible future directions. A cumulative dissertation must contain at least three publications (published or accepted for publication), at least one of which must be in a professional, peer-reviewed journal with IF (in English); in this work the student must be the lead author. The other two works must be published in a professional, peer-reviewed journal (in English). In these other works the student may be the lead author or a co-author; the share of authorship (expressed as a percentage) will be documented by a written affirmation from the lead author, team leader, or supervisor. Appendices may only include publications where the student clearly demonstrates an affiliation to CU FS, and possibly also lists sources of financing as per the instructions of the supervisor (e.g. in case of a Charles University Grant Agency (GAUK) research project). If a collective work lists multiple doctoral students of the same supervisor, the given work may only be used for one dissertation work, which will be determined by the supervisor. An integral part of the scientific training of the doctoral student is the active presentation of the results of research work at international, and possibly also Czech professional conferences and in peer-reviewed publications. With regard to international professional conferences, during the period of his/h studies, the student must personally present a poster at least once and personally deliver a</p>

Study programme and form of study	Requirements
	<p>lecture at least once at an international conference. A standard component of studies is a professional internship at a reputable foreign workplace. The internship should be sufficiently long (ideally 6 months or more), so that the student can become familiar with the research procedures at other workplaces and actively become involved in the research there.</p>
<p>Applied Geology (P0532D330017) combined</p>	<p>The student must pass at least three examinations in specialized subjects at the masters level or above, a greater number of subjects may be taken based on the supervisor's recommendations and the student's own needs. The study plan may also include short courses given in the CR or abroad. A language test is not required if the supervisor acknowledges that the student's foreign language skills (generally English) are sufficient. However, the ISP may be expanded to include a language test at the recommendation of the supervisor or subject area board. A language test is not required if the supervisor acknowledges that the student's foreign language skills (generally English) are sufficient. However, the ISP may be expanded to include a language test at the recommendation of the supervisor or subject area board. An integral part of studies is participation in institute or section seminars and similar scientific activities of the faculty. For four-year studies the study plan should include study abroad or a research stay (professional internship) at a foreign workplace (as recommended by the supervisor) for a period of at least 6 months. The subject area board will regularly check that study obligations are being met each year when 2nd year students and above present the current results of their ongoing dissertation work. A dissertation in classic format is a monograph manuscript containing an introduction to the topic, a critical overview of the current state of knowledge, an elaboration of research questions, an overview of the methods used, results achieved and their discussion, a summary and assessment of scientific contribution. A monograph dissertation must have at least one article published or accepted for publication in a professional peer-reviewed journal with an IF (listed in the ISI Web of Science database); for this work the student must be the lead (primary) author. Appendices may only include publications where the student clearly demonstrates an affiliation to CU FS, and possibly also lists sources of financing as per the instructions of the supervisor (e.g. in case of a Charles University Grant Agency (GAUK) research project). The anticipated scope of this dissertation format is 150-250 pages. A dissertation in cumulative format contains an introduction accompanying scientific publications. The introduction defines and critically evaluates the scientific problem addressed, defines the research questions, the manner in which they are approached, summarizes the main results which were achieved in individual publications and their interrelationship. Further, it contains thorough discussion of the research results and possible future directions. A cumulative dissertation must contain at least three publications (published or accepted for publication), at least one of which must be in a professional, peer-reviewed journal with IF (in English); in this work the student must be the lead author. The other two works must be published in a professional, peer-reviewed journal (in English). In these other works the student may be the lead author or a co-author; the share of authorship (expressed as a percentage) will be documented by a written affirmation from the lead author, team leader, or supervisor. Appendices may only include publications where the student clearly demonstrates an affiliation to CU FS, and possibly also lists sources of financing as per the instructions of the supervisor (e.g. in case of a Charles University Grant Agency (GAUK) research project). If a collective work lists multiple doctoral students of the same supervisor, the given work may only be used as one dissertation work, which will be determined by the supervisor. An integral part of the scientific training of the doctoral student is the active presentation of the results of research work at international, and possibly also Czech professional conferences and in peer-reviewed publications. With regard to international professional conferences, during the period of his/her studies, the student must personally present a poster at least once and personally deliver a lecture at least once at an international conference. A standard component of studies is a professional internship at a reputable foreign workplace. The internship should be sufficiently long (ideally 6 months or more), so that the student can become familiar with the research procedures at other workplaces and actively become involved in the research there.</p>
<p>Biochemistry (P0512D130016) full-time</p>	<p>The student should pass at least two specialized courses ending in an examination in subjects thematically related to the dissertation topic, with reference to previous study (e.g. courses provided at FoS CU). Also the short courses organized in Czech Republic or abroad can be suggested to ISP. The language certificate in English with international validity (e.g. FCE – grade B, or appropriate level of CAE TOEFL) is requested (the exams are not arranged by the Subject area board). The State Doctoral Examination from Biochemistry has to be successfully passed before PhD thesis submission.</p> <p>The results of the dissertation work must be published in at least three original, peer-reviewed</p>

Study programme and form of study	Requirements
	<p>articles in international impact journals in the field of biochemistry, while the candidate must be the lead/the first author of at least one of these. All publications arising in conjunction with work on the dissertation project (while studying at the Department of Biochemistry) must include the address (affiliation) of the accredited workplace, i.e. Department of Biochemistry FS CU. To different options/forms of PhD thesis (full text or brief/condensed version with attached article) are allowed. The students have to submit detailed summary of their thesis (in Czech and in English language).</p> <p>Students assist with teaching at the Department of Biochemistry FS CU, especially by helping supervise practical training courses. During their study the students report in a form of oral presentation on achieved results in seminars held by the department.</p> <p>Completion of an internship at Czech or foreign workplaces is required (internships can be funded by Mobility Fund). Active participation in student conferences and professional gatherings is also expected.</p>
<p>Biochemistry (P0512D130016) combined</p>	<p>The student should pass at least two specialized courses ending in an examination in subjects thematically related to the dissertation topic, with reference to previous study (e.g. courses provided at FoS CU). Also the short courses organized in Czech Republic or abroad can be suggested to ISP. The language certificate in English with international validity (e.g. FCE – grade B, or appropriate level of CAE TOEFL) is requested (the exams are not arranged by the Subject area board). The State Doctoral Examination from Biochemistry has to be successfully passed before PhD thesis submission.</p> <p>The results of the dissertation work must be published in at least three original, peer-reviewed articles in international impact journals in the field of biochemistry, while the candidate must be the lead/the first author of at least one of these. All publications arising in conjunction with work on the dissertation project (while studying at the Department of Biochemistry) must include the address (affiliation) of the accredited workplace, i.e. Department of Biochemistry FS CU. To different options/forms of PhD thesis (full text or brief/condensed version with attached article) are allowed. The students have to submit detailed summary of their thesis (in Czech and in English language).</p> <p>Students assist with teaching at the Department of Biochemistry FS CU, especially by helping supervise practical training courses. During their study the students report in a form of oral presentation on achieved results in seminars held by the department.</p> <p>Completion of an internship at Czech or foreign workplaces is required (internships can be funded by Mobility Fund). Active participation in student conferences and professional gatherings is also expected.</p>
<p>Bioinformatics and computational biology (P0688D14A4213) full-time</p>	<p>Study requirements</p> <p>When creating an individual study plan (ISP), the student writes down the study subjects in agreement with the supervisor and consultants, taking into account the topic of his dissertation project and his previous studies. The exception to this rule is mandatory participation in the doctoral bioinformatics seminar for the entire study duration.</p> <p>Doctoral exam</p> <p>The doctoral exam consists of two parts.</p> <p>In the first part, the student presents the topic of the dissertation. The presentation should include placing the subject of the work in the current context, an overview of the research in a given area, the current progress in the work on the chosen topic, and an outlook for the future. The presentation should also clearly show which areas of biology and informatics/mathematics the topic integrates or develops.</p> <p>The second part of the exam includes a discussion based on the presentation and the topics provided (see below). Bioinformatics and Computational Biology is an interdisciplinary programme where research subjects are based on results from informatics/mathematics and biology. The discussion/examination will focus on these two areas with an orientation towards the subject of the dissertation. The two specific topics, together with a list of literature, will be proposed by the supervisor and presented to the board of the doctoral study programme. At the same time, the supervisor will also propose two experts in the areas defined by the suggested topics (these may or may not be recruited from among the members of the study programme board).</p>

Study programme and form of study	Requirements
	<p>Form of the dissertation thesis</p> <p>The preferred form of work is as a collection of academic publications with an overview introduction in the range of approximately 30-50 pages. Individual publications should be placed in a broader context, and the dissertation should thus represent a compact integrated work. The main point of the introduction is an overview of the research area and a summary/discussion of the results and own contributions, which are then elaborated in detail the attached papers.</p> <p>Publishing activity</p> <p>The results based on which the doctoral thesis is submitted must be published in at least two impacted (WOS or SJR) journal publications, and in at least one publication, the student must be listed first (joint first authorship is acceptable) or corresponding author. In the case of an essential article in a top journal such as Nature or Science, one publication is sufficient. In rare instances, this requirement can be substituted with peer-reviewed conferences (a standard publication format in certain fields such as computer science). At the same time, these must be top conferences in the respective field (classified as A or A* conferences according to the CORE rating system). In very exceptional cases, submitting multiple manuscripts to Bioarxiv may also be considered, and such submissions will be evaluated on a case-by-case basis for recognition.</p> <p>Internship</p> <p>The programme board strongly recommends that students complete a research stay at an international workplace (according to the supervisor's recommendation) during their studies. If the event that fulfilling this internship is not feasible, students should provide a clear explanation during their thesis defense.</p>
<p>Bioinformatics and computational biology (P0688D14A4213) combined</p>	<p>Study requirements</p> <p>When creating an individual study plan (ISP), the student writes down the study subjects in agreement with the supervisor and consultants, taking into account the topic of his dissertation project and his previous studies. The exception to this rule is mandatory participation in the doctoral bioinformatics seminar for the entire study duration.</p> <p>Doctoral exam</p> <p>The doctoral exam consists of two parts.</p> <p>In the first part, the student presents the topic of the dissertation. The presentation should include placing the subject of the work in the current context, an overview of the research in the given area, the current progress in the work on the chosen topic, and an outlook for the future. The presentation should also clearly show which areas of biology and informatics/mathematics the topic integrates or develops.</p> <p>The second part of the exam includes a discussion based on the presentation and the topics provided (see below). Bioinformatics and Computational Biology is an interdisciplinary programme where research subjects are based on results from informatics/mathematics and biology. The discussion/examination will focus on these two areas with an orientation towards the subject of the dissertation. The two specific topics, together with a list of literature, will be proposed by the supervisor and presented to the board of the doctoral study programme. At the same time, the supervisor will also propose two experts in the areas defined by the suggested topics (these may or may not be recruited from among the members of the study programme board).</p> <p>Form of the dissertation thesis</p> <p>The preferred form of work is as a collection of academic publications with an overview introduction in the range of approximately 30-50 pages. Individual publications should be placed in a broader context, and the dissertation should thus represent a compact integrated work. The main point of the introduction is an overview of the research area and a summary/discussion of the results and own contributions, which are then elaborated in detail the attached papers.</p>

Study programme and form of study	Requirements
	<p>Publishing activity</p> <p>The results based on which the doctoral thesis is submitted must be published in at least two impacted (WOS or SJR) journal publications, and in at least one publication, the student must be listed first (joint first authorship is acceptable) or corresponding author. In the case of an essential article in a top journal such as Nature or Science, one publication is sufficient. In rare instances, this requirement can be substituted with peer-reviewed conferences (a standard publication format in certain fields such as computer science). At the same time, these must be top conferences in the respective field (classified as A or A* conferences according to the CORE rating system). In very exceptional cases, submitting multiple manuscripts to Bioarxiv may also be considered, and such submissions will be evaluated on a case-by-case basis for recognition.</p> <p>Internship</p> <p>The programme board strongly recommends that students complete a research stay at an international workplace (according to the supervisor's recommendation) during their studies. In the event that fulfilling this internship is not feasible, students should provide a clear explanation during their thesis defense.</p>
<p>Botany (P0511D030024) full-time</p>	<p>By the end of the second semester of study the doctoral student must present his/her topic at a specialized seminar, where public discussion will take place on the topic of the doctoral work. Report on work during the first year of study before a commission appointed by the subject area board is required at the end of the first year. Taking the state doctoral examination is obligatory during the (3rd) - 4th semester of study.</p> <p>No later than the end of the sixth semester, the doctoral student will present the results of his/her project and outlook for the remainder of doctoral studies at doctoral seminars.</p> <p>English exam is not requested, knowledge of English language is anticipated. The anticipated form of dissertation work in the field of botany is a manuscript written in English, composed of at least three thematically related texts in the format of scientific articles, with a broader unified introduction to the topic and conclusion. At least one of these articles must be published or accepted for publication in an internationally recognized scientific journal (this is generally understood to be a journal with an impact factor defined by ISI; journals with IF in the lower quarter are only suitable in clearly justified cases). Acceptance for publication must be documented in a credible manner. The introduction must be a significant portion of the work (the length of an average article) and must thoroughly present the framework and context of the work, the objective of the work, and must place the individual articles into the overall context. All parts mentioned (introduction, published/accepted articles, unpublished texts in the form of articles) must be part of the dissertation text (and not an appendix). All articles must be related to the dissertation topic.</p> <p>In duly justified cases the dissertation work can have a form of a coherent scientific monograph – the student has to be the lead author and must submit confirmation from the editors that it has been accepted for publication.</p>
<p>Botany (P0511D030024) combined</p>	<p>By the end of the second semester of study the doctoral student must present his/her topic at a specialized seminar, where public discussion will take place on the topic of the doctoral work. Report on work during the first year of study before a commission appointed by the subject area board is required at the end of the first year. Taking the state doctoral examination is obligatory during the (3rd) - 4th semester of study.</p> <p>No later than the end of the sixth semester, the doctoral student will present the results of his/her project and outlook for the remainder of doctoral studies at doctoral seminars.</p> <p>English exam is not requested, knowledge of English language is anticipated. The anticipated form of dissertation work in the field of botany is a manuscript written in English, composed of at least three thematically related texts in the format of scientific articles, with a broader unified introduction to the topic and conclusion. At least one of these articles must be published or accepted for publication in an internationally recognized scientific journal (this is generally understood to be a journal with an impact factor defined by ISI; journals with IF in the lower quarter are only suitable in clearly justified cases). Acceptance for publication must be documented in a credible manner. The introduction must be a significant portion of the work</p>

Study programme and form of study	Requirements
	<p>(the length of an average article) and must thoroughly present the framework and context of work, the objective of the work, and must place the individual articles into the overall context. parts mentioned (introduction, published/accepted articles, unpublished texts in the format of articles) must be part of the dissertation text (and not an appendix). All articles must be related to the dissertation topic.</p> <p>In duly justified cases the dissertation work can have a form of a coherent scientific monograph – the student has to be the lead author and must submit confirmation from the editors that it has been accepted for publication.</p>
<p>Demography (P0532D330015) full-time</p>	<p>1. Required courses</p> <p>The students have to pass all the courses they have in the ISP by the end of the second year.</p> <p>The students who have a master degree in demography have to take at least two courses, which are: MPGS0120 Obecné kolokvium/General colloquium (DEM). The second course is chosen from the courses whose content is relevant for the students' dissertation. The selection is done together with the advisor.</p> <p>Students with a master degree in a different field have to take at least four courses: MPGS0120 Obecné kolokvium/General colloquium (DEM) and three courses in the basics of demography (MD360P87 Demografická analýza I or MD360E01 Demographic Analysis, MD360P88 Demografická analýza or MD360E02 Demographic Analysis II and MD360P86 Světový populační vývoj or MD360P96 Global Population Challenges).</p> <p>The state doctoral examination (course MSZXZ007 Demografie) is done by the end of the second year.</p> <p>2. State doctoral exam and dissertation defence</p> <p>For registration for the state doctoral exam, the students need to fulfil following obligations: (i) to fulfilment their duties (courses) in the ISP, (ii) to submit at least one original published/accepted article related to the dissertation topic and (iii) to submit an electronic version of the dissertation in progress.</p> <p>In case of a monograph, the dissertation as a work in progress has at least 40 standard pages (72,000 characters including spaces) with an introductory text that captures the core of the research activities of the student in the field of demography, literature review and other selected chapters.</p> <p>In case of a dissertation as a set of scientific articles, at least one published/accepted article and one article in progress must be presented with an introductory text that captures the core of the research activities of the student in the field of demography (at least 10 pages, i.e., 18,000 characters including spaces), literature review and a plan of publications.</p> <p>The state doctoral exam takes place in front of a committee. The dissertation is assessed by two opponents, at least one of whom is an external referee (other than members of the department and research team in which the PhD student works). The defence is done in a form of a scientific discussion about the state of the dissertation (presentation using PPT for maximum 30 minutes) and the aim is to defend, in front of a committee, first results and to discuss the methods used before the dissertation is completed. In the second part of the examination, the committee, considering the topic of the dissertation, verifies the student's ability to relate a research problem to wider concepts (e.g., key theories, concepts) and methodology. Apart from factual knowledge, the examination is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence (PPT presentation for maximum 30 minutes) shall prove the ability to present and defend methods and results of the doctoral project and the ability to discuss problems on a scientific level. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP fulfilled. The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p>

Study programme and form of study	Requirements
	<p>3. Study stay abroad It is recommended that during the standard period of study, the doctoral student completes a study or research stay abroad, which is related to the topic of the dissertation, it should be at least 1 month long and registered in SIS in the module "Internships".</p> <p>4. Publications Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with affiliation to the department are accepted. In case of collective work, the students has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least one has to be published in a journal with IF (according to the Web of Science) and the student has to be the first author with at least 50% contribution. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The last (fourth) of the articles included in the set of publications (except the one where the PhD student is the first author with the author's share of 50%) can only be in the state of "accepted for peer review" (not just sent to the editorial office or the editor) at the time of the defence, with the proviso that this acceptance for peer review must be documented. The publications must form a logically organized thematic set in line with the topic of the dissertation. In some cases (e.g., due to the topic of the dissertation), the subject-area board can accept substituting one article in a journal with IF with two articles in foreign journals included in the database WoS/Scopus. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph: The monographs should be between 150 and 300 standard pages (270 to 540 thousand characters, spaces included). The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in a journal with IF (according to the Web of Science) and the student has to be the first author with at least 50% contribution. One article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The publications must be related to the topic of the dissertation. In some cases (e.g. due to the topic of the dissertation), the subject-area board can accept substituting one article in a journal with IF with two articles in foreign journals included in the database WoS/Scopus.</p> <p>5. Teaching activities of a doctoral student The students usually participate in teaching activities and are also supervisors and opponents of bachelor theses (sometimes also master theses) and they take part in lectures and practical seminars, excursions, life-long learning courses etc. The teaching activities of the student are coordinated by the supervisor and the head of department. If the classes taught are not directly linked to the doctoral theses and/or are more frequent than one-time classes, these are financially reimbursed (by a separate contract). In the third year, the student, after consulting the supervisor, has to provide 2-3 topics for bachelor theses in SIS. The topics have to be related to the doctoral project. The classes that are continuous (i.e., not just one ad hoc class) are paid.</p> <p>6. The presence of a doctoral student at the department, in hours per week The students in the full-time study programme and in the standard period of study are present at the department at least for 8 hours per week. The students take part in everyday activities at the department, especially in organizing entrance exams, PR activities, workshops, etc. The students attend the dissertation defences in their study programme and they attend lectures for visiting scholars.</p> <p>7. Specific requirements for the given study programme (for instance requirements for the subject-area board on minimum number of conferences attended by a doctoral student)</p>

Study programme and form of study	Requirements
	<p>During the course of studies, the students have to present the results of their dissertation research at conferences and seminars (both in Czechia and abroad) and they have to publish articles.</p> <p>Every year, the students take part in the seminars for PhD students. At least twice in the course of studies, the students have to present their progress (once before the state doctoral exam and once before the defence).</p> <p>During the course of studies, the students have to participate actively at least in one conference in Czechia and one abroad.</p> <p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p> <p>Approved by the subject-area board on 15. 8. 2023.</p>
Demography (P0532D330015) combined	<p>1. Required courses The students have to pass all the courses they have in the ISP by the end of the third year.</p> <p>The students who have master degree in demography have to take at least two courses, which are: MPGS0120 Obecné kolokvium/General colloquium (DEM) and course according to the recommended ISP.</p> <p>Students with a master degree in a different field have to take at least four courses: MPGS0120 Obecné kolokvium/General colloquium (DEM), three courses in the basics of demography (MD360P87 Demografická analýza I/Demographic Analysis I, MD360P88 Demografická analýza II/ Demographic Analysis II and MD360P86 World Population Development) and one course according to the recommended ISP.</p> <p>The state doctoral examination (course MSZXZ007 Demografie) is done by the end of the fourth year.</p> <p>2. State doctoral exam and dissertation defence For registration for the state doctoral exam, the students need to fulfill following obligations: (i) to fulfill their duties (courses) in the ISP, (ii) to submit at least one original published/accepted article related to the dissertation topic and (iii) to submit an electronic version of the dissertation in progress.</p> <p>In case of a monograph, the dissertation as a work in progress has at least 40 standard pages (72,000 characters including spaces) with an introductory text that captures the core of the research activities of the student in the field of demography, literature review and other selected chapters.</p> <p>In case of a dissertation as a set of scientific articles, at least one published/accepted article and one article in progress must be presented with an introductory text that captures the core of the research activities of the student in the field of demography (at least 10 pages, i.e., 18,000 characters including spaces), literature review and a plan of publications.</p> <p>The state doctoral exam takes place in front of a committee. The dissertation is assessed by two opponents, at least one of whom is an external referee (other than members of the department and research team in which the PhD student works). The defence is done in the form of a scientific discussion about the state of the dissertation (presentation using PPT for max. 30 minutes) and the aim is to defend, in front of a committee, first results and to discuss the methods used before the dissertation is completed. In the second part of the examination, the committee, considering the topic of the dissertation, verifies the student's ability to relate a research problem to wider concepts (e.g., key theories, concepts) and methodology. Apart from factual knowledge, the examination is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence (PPT presentation for max. 30 minutes) shall prove the ability to</p>

Study programme and form of study	Requirements
	<p>present and defend methods and results of the doctoral project and the ability to discuss problems on a scientific level. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP fulfilled (publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p> <p>3. Study stay abroad It is recommended that during the standard period of study, the doctoral student completes a study or research stay abroad, which is related to the topic of the dissertation, it should be at least 1 month long and registered in SIS in the module "Internships".</p> <p>4. Publications Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with affiliation to the department are accepted. In case of collective work, the students has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least one has to be published in a journal with IF (according to the Web of Science) and the student has to be the first author with at least 50% contribution. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The last (fourth) of the articles included in the set of publications (except the one where the PhD student is the first author with the author's share of 50%) can only be in the state of "accepted for peer review" (not just sent to the editorial office or the editor) at the time of the defence, with the proviso that this acceptance for peer review must be documented. The publications must form a logically organized thematic set in line with the topic of the dissertation. In some cases (e.g., due to the topic of the dissertation), the subject-area board can accept substituting one article in a journal with IF with two articles in foreign journals included in the database WoS/Scopus. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph: The monographs should be between 150 and 300 standard pages (270 to 540 thousand characters, spaces included). The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in a journal with IF (according to the Web of Science) and the student has to be the first author with at least 50% contribution. One article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The publications must be related to the topic of the dissertation. . In some cases (e.g. due to the topic of the dissertation), the subject-area board can accept substituting one article in a journal with IF with two articles in foreign journals included in the database WoS/Scopus.</p> <p>5. Teaching activities of a doctoral student Not required.</p> <p>6. The presence of a doctoral student at the department Not required.</p> <p>7. Specific requirements for the given study programme (for instance requirements the subject-area board on minimum number of conferences attended by a doctoral students)</p> <p>During the course of studies, the students have to present the results of their research at conferences and seminars (both in Czechia and abroad) and they have to publish articles. Every year, the students take part in the seminars for PhD students. At least twice in the course of studies, the students have to present their progress (once before the state doctoral exam and once before the defence).</p>

Study programme and form of study	Requirements
	<p>During the course of studies, the students have to participate actively at least in one conference in Czechia and one abroad.</p> <p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p> <p>Approved by the subject-area board on 15. 8. 2023.</p>
<p>Developmental and Cell Biology (P0511D030046)</p> <p>full-time</p>	<p>The goal of study is to train students at advanced level in developmental and cell biology. The students should acquire broad knowledge of the research area, master their research topic, become competent in conducting and planning experiments, get trained in scientific writing, and obtain qualification which would make them competitive candidates for positions in research, teaching, and technologies internationally.</p> <p>Learning goal 1</p> <p>Students must take at least three study obligations (courses) and schedule them within the first 3 years of study. When preparing their proposal of the individual study plan (ISP) for approval by the Subject area board (Board) in the Study Information System of the Charles University (SIS), students should include all three courses in the plan.</p> <p>(A) All students must take the obligatory “Grant application strategy and preparation of scientific publication” course. After the theoretical background is explained in several lectures, the student will prepare a grant application related to the Ph.D. project in English, using the forms and guidelines of the Grant Agency of the Czech Republic.</p> <p>(B) Students choose at least two study obligations from the list below. Students should actively seek the opinion of their mentors about the suitability of courses with respect to their project. The prerequisite for the inclusion of courses is that students have not passed them in previous or concurrent study programs.</p> <p>Theoretical courses:</p> <ul style="list-style-type: none"> • MB140P82 Advances in molecular virology • MB150P23 Cells and tissues in vitro (*) • MB150P32E Cell differentiation in ontogenesis • MB160P44 Computational Genomics • MB151P80E Cytometry • MB151P96E Fluorescent microscopy in cell biology • MB151P102 Genomic methods • MB140P86 Methods of functional genomics • MB150P89 Molecular Biology of Cancer I (*) • MB151P105 Molecular Biology of Cancer II • MB150P79E Molecular mechanisms of apoptosis • MB150P84 Molecular mechanisms of cell cycle regulation • MB150P66 Molecular mechanisms of fertilization (*) • MB150P83E Model organisms in developmental biology • MB151P107E Protein dynamics in development and cancer • MB150P09 Proteins of signaling cascades • MB150P10 Reproduction biology • MB150P91E RNA structure and function • MB151P116 Structural bioinformatics • MB150P67 Structure and function of cytoskeleton (*) <p>• Advances in molecular biology and genetics (Institute of Molecular Genetics of the ASCR, v. i.) [https://pokroky.img.cas.cz/ - https://pokroky.img.cas.cz/] (according to the information for the current academic year)</p> <p>(*) enquire about the availability of the course in English</p> <p>Practical courses:</p> <ul style="list-style-type: none"> • Processing and analysis of microscopic image in biomedicine (Institute of Molecular Genetics of the ASCR, v. i.) [https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopicky-obrazu-v-biomedicine/ - https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopicky-obrazu-v-biomedicine/] (according to the information for the

Study programme and form of study	Requirements
	<p>current academic year)</p> <ul style="list-style-type: none"> • Microscopic methods in biomedicine (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/ - https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/] (according to information for the current academic year) • Transmission electron microscopy in life sciences (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-lifesciences/ - https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-lifesciences/] (according to the information for the current academic year) • MB140C75E Fluorescence spectroscopy in biology <p>Learning goal 2</p> <p>Internships and visits in cooperating laboratories</p> <p>Students conduct part of their work or training at foreign institution for a total length of at least one month or directly participate in other forms of international cooperation, such as participation in an international creative project with results published or presented abroad. The recommended form is an internship (in total for at least three months) with emphasis on advanced methods or new approaches/ models.</p> <p>Presentations of results</p> <p>Students are required to attend the conference of doctoral students, which is summoned every year by the Board. Students actively participate in its organization. During the conference, students present results of their projects and discuss methods and issues of common interest. Both the Board members and the mentors are invited to the conference.</p> <p>Active participation in international conferences according to the focus and possibilities of the mentor's team is also recommended.</p> <p>Ph.D. exam</p> <p>The state doctoral exam is an important control point of the study, in addition to the annual IS checks. The exam serves to test student's understanding of the research project and his/ her orientation in the research field. The committee assesses depth and breadth of knowledge of developmental and cell biology with emphasis on areas related to the project. The recommended timing of the exam is the second semester of the second year of study or the first semester of the third year, so that the exam can serve as a useful feedback for the student. Postponing the exam after the 3rd year without reason may affect student's grading during the subsequent annual evaluation.</p> <p>PhD Thesis</p> <p>Publication prerequisites: The applicant must be an author/ co-author of at least two papers accepted in peer-reviewed journals indexed in the Web of Science (preferably with IF above the research field median) and should be a first author on at least one publication (shared first authorship should be communicated ex ante with the Board). In exceptional and warranted cases, the Board may decide otherwise; an example of such situation may be one excellent first author publication.</p> <p>PhD Thesis: The thesis should be written as concise, fair and comprehensive information about the applicant's scientific achievements. It should enable the reviewers and the defense committee to assess whether the candidate has acquired both theoretical knowledge and methodical experience as prerequisite for independent scientific work in the field. The candidate should address the scientific problems and open questions of the project and formulate his/ her independent opinions.</p> <p>The text contains: a) Abstract – It should summarize the project's aims and results for the public; it should not exceed 500 words.</p>

Study programme and form of study	Requirements
	<p>b) Introduction – It should be outlined as brief review of current knowledge related to the project. Recommended length is ca 20 pages of standard manuscript formatting.</p> <p>c) Methods, Results – These sections should describe in detail the methods and the results of experiments carried out by the applicant, which have not become part of the published paper submitted manuscripts. The published papers/ submitted manuscripts should be included as supplements.</p> <p>d) Discussion – This section gives the author the opportunity to present her/ his independent opinions on the results and their significance. It should reflect the level of knowledge at the time of thesis submission and it should mention relevant literature containing supportive or contradictory results. Minimum length is 10 pages.</p> <p>e) Summary - Summary of the main results. Recommended length is 1 page.</p> <p>f) Accompanying sections - list of abbreviations, list of references, information on data repositories or websites where appropriate, statement describing the contribution of the applicant to the published work, including a detailed statement about his/ her role in the preparation of the publications.</p> <p>g) Publications and submitted manuscripts which contain the results obtained by the student</p> <p>The text in parts a) to e) should be written by the student and must not be contained elsewhere. The text cannot be copied, even in part, from the publications in section g) or other texts. The text can be written in English, Czech or Slovak. Formatting of the text, figures, tab and accompanying data should comply with the rules for manuscript submission of a journal choice, such as the journal where one of the author's papers was published.</p>
<p>Developmental and Cell Biology (P0511D030046) combined</p>	<p>The goal of study is to train students at advanced level in developmental and cell biology. The students should acquire broad knowledge of the research area, master their research topic, become competent in conducting and planning experiments, get trained in scientific writing, and obtain qualification which would make them competitive candidates for positions in research, teaching, and technologies internationally.</p> <p>Learning goal 1</p> <p>Students must take at least three study obligations (courses) and schedule them within the first 3 years of study. When preparing their proposal of the individual study plan (ISP) for approval by the Subject area board (Board) in the Study Information System of the Charles University (SIS), students should include all three courses in the plan.</p> <p>(A) All students must take the obligatory “Grant application strategy and preparation of scientific publication” course. After the theoretical background is explained in several lectures, the student will prepare a grant application related to the Ph.D. project in English, using the form and guidelines of the Grant Agency of the Czech Republic.</p> <p>(B) Students choose at least two study obligations from the list below. Students should actively seek the opinion of their mentors about the suitability of courses with respect to their project. The prerequisite for the inclusion of courses is that students have not passed them in previous or concurrent study programs.</p> <p>Theoretical courses</p> <ul style="list-style-type: none"> • MB140P82 Advances in molecular virology • MB150P23 Cells and tissues in vitro (*) • MB150P32E Cell differentiation in ontogenesis • MB160P44 Computational Genomics • MB151P80E Cytometry • MB151P96E Fluorescent microscopy in cell biology • MB151P102 Genomic methods • MB140P86 Methods of functional genomics • MB150P89 Molecular Biology of Cancer I (*) • MB151P105 Molecular Biology of Cancer II • MB150P79E Molecular mechanisms of apoptosis • MB150P84 Molecular mechanisms of cell cycle regulation • MB150P66 Molecular mechanisms of fertilization (*) • MB150P83E Model organisms in developmental biology • MB151P107E Protein dynamics in development and cancer • MB150P09 Proteins of signaling cascades

Study programme and form of study	Requirements
	<ul style="list-style-type: none"> • MB150P10 Reproduction biology • MB150P91E RNA structure and function • MB151P116 Structural bioinformatics • MB150P67 Structure and function of cytoskeleton (*) • Advances in molecular biology and genetics (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://pokroky.img.cas.cz/ - https://pokroky.img.cas.cz/] (according to the information for the current academic year) <p>(*) enquire about the availability of the course in English</p> <p>Practical courses:</p> <ul style="list-style-type: none"> • Processing and analysis of microscopic image in biomedicine (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopicky-obrazu-v-biomedicine/ - https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopicky-obrazu-v-biomedicine/] (according to the information for the current academic year) • Microscopic methods in biomedicine (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/ - https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/] (according to information for the current academic year) • Transmission electron microscopy in life sciences (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-life-sciences/ - https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-life-sciences/] (according to the information for the current academic year) • MB140C75E Fluorescence spectroscopy in biology <p>Learning goal 2</p> <p>Internships and visits in cooperating laboratories</p> <p>Students conduct part of their work or training at foreign institution for a total length of at least one month or directly participate in other forms of international cooperation, such as participation in an international creative project with results published or presented abroad. The recommended form is an internship (in total for at least three months) with emphasis on advanced methods or new approaches/ models.</p> <p>Presentations of results</p> <p>Students are required to attend the conference of doctoral students, which is summoned every year by the Board. Students actively participate in its organization. During the conference, students present results of their projects and discuss methods and issues of common interest. Both the Board members and the mentors are invited to the conference.</p> <p>Active participation in international conferences according to the focus and possibilities of the mentor's team is also recommended.</p> <p>Ph.D. exam</p> <p>The state doctoral exam is an important control point of the study, in addition to the annual IS checks. The exam serves to test student's understanding of the research project and his/ her orientation in the research field. The committee assesses depth and breadth of knowledge of developmental and cell biology with emphasis on areas related to the project. The recommended timing of the exam is the second semester of the second year of study or the first semester of the third year, so that the exam can serve as a useful feedback for the student. Postponing the exam after the 3rd year without reason may affect student's grading during the subsequent annual evaluation.</p> <p>PhD Thesis</p> <p>Publication prerequisites: The applicant must be an author/ co-author of at least two papers accepted in peer-reviewed journals indexed in the Web of Science (preferably with IF above the research field median)</p>

Study programme and form of study	Requirements
	<p>and should be a first author on at least one publication (shared first authorship should be communicated ex ante with the Board). In exceptional and warranted cases, the Board may decide otherwise; an example of such situation may be one excellent first author publication.</p> <p>PhD Thesis: The thesis should be written as concise, fair and comprehensive information about the applicant's scientific achievements. It should enable the reviewers and the defense committee to assess whether the candidate has acquired both theoretical knowledge and methodical experience as prerequisite for independent scientific work in the field. The candidate should address the scientific problems and open questions of the project and formulate his/ her independent opinions.</p> <p>The text contains:</p> <p>a) Abstract – It should summarize the project's aims and results for the public; it should not exceed 500 words.</p> <p>b) Introduction – It should be outlined as brief review of current knowledge related to the project. Recommended length is ca 20 pages of standard manuscript formatting.</p> <p>c) Methods, Results – These sections should describe in detail the methods and the results of experiments carried out by the applicant, which have not become part of the published paper submitted manuscripts. The published papers/ submitted manuscripts should be included as supplements.</p> <p>d) Discussion – This section gives the author the opportunity to present her/ his independent opinions on the results and their significance. It should reflect the level of knowledge at the time of thesis submission and it should mention relevant literature containing supportive or contradictory results. Minimum length is 10 pages.</p> <p>e) Summary - Summary of the main results. Recommended length is 1 page.</p> <p>f) Accompanying sections - list of abbreviations, list of references, information on data repositories or websites where appropriate, statement describing the contribution of the applicant to the published work, including a detailed statement about his/ her role in the preparation of the publications.</p> <p>g) Publications and submitted manuscripts which contain the results obtained by the student</p> <p>The text in parts a) to e) should be written by the student and must not be contained elsewhere. The text cannot be copied, even in part, from the publications in section g) or other texts. The text can be written in English, Czech or Slovak. Formatting of the text, figures, tables and accompanying data should comply with the rules for manuscript submission of a journal of choice, such as the journal where one of the author's papers was published.</p>
<p>Didactics of Geography (P0532D330027)</p> <p>full-time</p>	<p>Study requirements</p> <p>1. Obligatory courses</p> <p>During the first two year of the studies, PhD students have to pass two obligatory courses: MPGS0125 Obecné kolokvium z didaktiky geografie and MPGS0064 Teoreticko-metodologické otázky didaktiky geografie and at least one elective course that is relevant for their dissertation. The courses need to be approved by the supervisor.</p> <p>The elective courses are organized in three sets:</p> <p>1) Methods of pedagogical research</p> <p>1.1 Courses at Charles University:</p> <p>NDFY081 Analýza dat v pedagogickém a didaktickém výzkumu (PhDr. Martin Chvál, Ph.D.) OD0513007 Kvalitativní metodologie (doc. PhDr. Miloš Kučera, CSc.) OD0133007 Kvalitativní metody v pedagogickém výzkumu (PhDr. Karel Starý, Ph.D.) OD0133006 Kvantitativní metody výzkumu ve vzdělávání (PhDr. David Greger, Ph.D.) OD0133011 Pokročilé statistické metody v pedagogickém výzkumu (PhDr. Martin Chvál, Ph.D.) OD0133012 Psaní odborných textů (RNDr. Dominik Dvořák, Ph.D.) OD0133005 Statistika v pedagogickém výzkumu (PhDr. Martin Chvál, Ph.D.) MZ340E15 Systematic reviews and meta-analysis (prof. Hynek Píkhart, Ph.D.) NDFY071 Úvod do rešeršní a výzkumné činnosti I. (RNDr. Martina Kekule, Ph.D.) NDFY072 Úvod do rešeršní a výzkumné činnosti II. (RNDr. Martina Kekule, Ph.D.)</p> <p>1.2 Courses at other universities:</p>

Study programme and form of study	Requirements
	<p>ZeD0006 Teorie a metodologie výzkumu v didaktice geografie (doc. Petr Knecht, Masaryk University)</p> <p>Other courses are chosen according to specific methodological needs of each dissertation project.</p> <p>2) Pedagogy, psychology, general didactics and subject didactics</p> <p>2.1 Courses at Charles University: OD0513015 Kulturní psychologie - vztah psychického vývoje a učení (prof. PhDr. Stanislav Štech, CSc.) OD0513010 Motivace a autoregulace žáků (doc. PhDr. Isabella Pavelková, CSc.) OD0513002 Nadání, inteligence a tvořivost (doc. PhDr. Lenka Hříbková, CSc.) OD0513006 Psychologie dětí a mládeže (doc. PhDr. Miloš Kučera, CSc.) OD0133003 Srovnávací pedagogika (prof. PhDr. Eliška Walterová, CSc.) OD0114009 Teorie výchovy (doc. PhDr. Jiří Prokop, Ph.D.) OD0115007 Teorie učitelské profese (prof. PhDr. Eliška Walterová, CSc.) OD0513005 Věcné učení (PhDr. Miroslav Klusák, CSc.) NMST570 Vybraná témata z psychometrie (RNDr. Patrícia Martinková, Ph.D.)</p> <p>2.2 Courses at other universities: ZeD0003 Pedagogická psychologie (Mgr. et Mgr. Jan Mareš, Ph.D., Masaryk University) ZeD0009 Kurikulární studia (doc. Mgr. Petr Knecht, Ph.D., Masaryk University) ZeD0018 Transdisciplinární didaktika: obecné otázky oborových didaktik (prof. PhDr. Mgr. Tomáš Janík, Ph.D., Masaryk University)</p> <p>Other courses are chosen according to the dissertation topic.</p> <p>3) Geography</p> <p>3.1 Courses at Charles University: MPGS0091 Ekonomická geografie pro PGS (prof. RNDr. Petr Pavlínek, Ph.D.) MPGS0094 Geografie města pro PGS (prof. RNDr. Luděk Sýkora, Ph.D.) MPGS0097 Geografie zdraví pro PGS (prof. RNDr. Dagmar Džúrová, CSc.) MPGS0096 Historická a kulturní geografie pro PGS (doc. RNDr. Pavel Chromý, Ph.D.) MPGS0093 Migrace obyvatelstva pro PGS (prof. RNDr. Dušan Drbohlav, Ph.D.) MPGS0090 Regionální rozvoj a regionální politika pro PGS (doc. RNDr. Jiří Blažek, Ph.D.) MPGS0104 Rozvojová studia pro PGS (doc. RNDr. Josef Novotný, Ph.D.) MPGS0098 Teorie regionální geografie pro PGS (doc. RNDr. Pavel Chromý, Ph.D.) MPGS0088 Teorie sociální geografie pro PGS (prof. RNDr. Luděk Sýkora, Ph.D.)</p> <p>3.2 Courses at other universities: Not specified.</p> <p>Other courses are chosen according to the dissertation topic.</p> <p>At least two courses need to be taken and successfully finished in the first year, the other before registering for the state doctoral examination. Before applying for the state doctoral exam (MSZXZ005), the student has to pass the Theoretical-methodological considerations (SGR, MPGS0121); the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is submitted electronically together with the application for the state doctoral exam at the Department of Student Affairs copy is provided to the coordinator of doctoral studies at the department. The state doctoral exam MSZXZ005 Social Geography and Regional Development has to be passed by the end of the second year.</p> <p>State doctoral exam and dissertation defence</p> <p>For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological</p>

Study programme and form of study	Requirements
	<p>considerations.</p> <p>In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, 4 ppt slides presentation allowed). The whole concept is assessed by an opponent who also asks the student follow-up questions focused on theoretical and methodological issues of the concept. The student answers the questions. This is followed by a discussion. In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories (e.g. crucial theoretical concepts) and methodological approaches in the field of geographical education and other relevant fields (geography, pedagogy, psychology, general didactics, geoinformatics, cartography etc.). Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wide context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence has to prove the student's ability to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p> <p>Study stay abroad</p> <p>The students have to go abroad to study or to conduct research abroad (for the topic related to their dissertation). The stay is at least one month long. In SIS, it is included in the "Internship".</p> <p>Dissertation and publications</p> <p>Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with affiliation of the student to the department are accepted. In case of collective work, the student has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications:</p> <p>The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least two have to be published in a journal in the WoS database and the student has to be the first author or at least one of them. The set of publications can include a chapter in a peer-reviewed book. The publications must form a logically organized thematic set. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph:</p> <p>The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in a journal in the WoS database and the student has to be the first author. One article can be replaced by a chapter in a peer-reviewed book. The publications must be related to the topic of the dissertation.</p> <p>Teaching activities</p> <p>The students usually participate in teaching activities and are also supervisors and opponents of bachelor theses (sometimes also master theses) and they take part in lectures and practical seminars, excursions, life-long learning courses etc. The teaching activities of the student are coordinated by the supervisor and the head of department. If the classes taught are not directly linked to the doctoral theses and/or are more frequent than one-time classes, these are financially reimbursed.</p>

Study programme and form of study	Requirements
	<p>After consulting the supervisor, has to provide t-2 topics for bachelor theses in SIS. The topic have to be related to the doctoral project.</p> <p>The presence at the department, in hours per week</p> <p>The students in the full-time study programme and in the standard period of study are present at the department at least for 8 hours per week. The students take part in everyday activities at the department, especially in organizing entrance exams, PR activities, workshops, etc. The students attend the dissertation defences in their study programme and they attend lectures by visiting scholars.</p> <p>Specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended)</p> <p>During the course of studies, the students have to participate actively at least in one conference in Czechia and one abroad.</p>
<p>Didactics of Geography (P0532D330027) combined</p>	<p>Study requirements</p> <p>1. Obligatory courses</p> <p>A doctoral student must complete all prescribed courses according to the ISP by the end of the 3rd year of study. PhD students have to pass two obligatory courses: MPGS0125 Obecné kolokvium z didaktiky geografie and MPGS0064 Teoreticko-metodologické otázky didaktiky geografie and at least one elective course that is relevant for their dissertation. The courses need to be approved by the supervisor.</p> <p>The elective courses are organized in three sets:</p> <p>1) Methods of pedagogical research</p> <p>1.2 Courses at Charles University: NDFY081 Analýza dat v pedagogickém a didaktickém výzkumu (PhDr. Martin Chvál, Ph.D.) OD0513007 Kvalitativní metodologie (doc. PhDr. Miloš Kučera, CSc.) OD0133007 Kvalitativní metody v pedagogickém výzkumu (PhDr. Karel Starý, Ph.D.) OD0133006 Kvantitativní metody výzkumu ve vzdělávání (PhDr. David Greger, Ph.D.) OD0133011 Pokročilé statistické metody v pedagogickém výzkumu (PhDr. Martin Chvál, Ph.D.) OD0133012 Psaní odborných textů (RNDr. Dominik Dvořák, Ph.D.) OD0133005 Statistika v pedagogickém výzkumu (PhDr. Martin Chvál, Ph.D.) MZ340E15 Systematic reviews and meta-analysis (prof. Hynek Píkhart, Ph.D.) NDFY071 Úvod do rešeršní a výzkumné činnosti I. (RNDr. Martina Kekule, Ph.D.) NDFY072 Úvod do rešeršní a výzkumné činnosti II. (RNDr. Martina Kekule, Ph.D.)</p> <p>1.2 Courses at other universities: ZeD0006 Teorie a metodologie výzkumu v didaktice geografie (doc. Petr Knecht, Masaryk University)</p> <p>Other courses are chosen according to specific methodological needs of each dissertation project.</p> <p>2) Pedagogy, psychology, general didactics and subject didactics</p> <p>2.1 Courses at Charles University: OD0513015 Kulturní psychologie - vztah psychického vývoje a učení (prof. PhDr. Stanislav Štech, CSc.) OD0513010 Motivace a autoregulace žáků (doc. PhDr. Isabella Pavelková, CSc.) OD0513002 Nadání, inteligence a tvořivost (doc. PhDr. Lenka Hříbková, CSc.) OD0513006 Psychologie dětí a mládeže (doc. PhDr. Miloš Kučera, CSc.) OD0133003 Srovnávací pedagogika (prof. PhDr. Eliška Walterová, CSc.) OD0114009 Teorie výchovy (doc. PhDr. Jiří Prokop, Ph.D.) OD0115007 Teorie učitelské profese (prof. PhDr. Eliška Walterová, CSc.) OD0513005 Věcné učení (PhDr. Miroslav Klusák, CSc.) NMST570 Vybraná témata z psychometrie (RNDr. Patrícia Martinková, Ph.D.)</p>

Study programme and form of study	Requirements
	<p>2.2 Courses at other universities: ZeD0003 Pedagogická psychologie (Mgr. et Mgr. Jan Mareš, Ph.D., Masaryk University) ZeD0009 Kurikulární studia (doc. Mgr. Petr Knecht, Ph.D., Masaryk University) ZeD0018 Transdisciplinární didaktika: obecné otázky oborových didaktik (prof. PhDr. Mgr. Tomáš Janík, Ph.D., Masaryk University)</p> <p>Other courses are chosen according to the dissertation topic.</p> <p>3) Geography</p> <p>3.1 Courses at Charles University: MPGS0091 Ekonomická geografie pro PGS (prof. RNDr. Petr Pavlínek, Ph.D.) MPGS0106 Geografie krajiny pro PGS (doc. RNDr. Ivan Bičík, CSc.) MPGS0094 Geografie města pro PGS (prof. RNDr. Luděk Sýkora, Ph.D.) MPGS0097 Geografie zdraví pro PGS (prof. RNDr. Dagmar Džúrová, CSc.) MPGS0100 Globální a nadnárodní diferenciace světa pro PGS (doc. RNDr. Josef Novotný, Ph.D.) MPGS0096 Historická a kulturní geografie pro PGS (doc. RNDr. Pavel Chromý, Ph.D.) MPGS0093 Migrace obyvatelstva pro PGS (prof. RNDr. Dušan Drbohlav, Ph.D.) MPGS0090 Regionální rozvoj a regionální politika pro PGS (doc. RNDr. Jiří Blažek, Ph.D.) MPGS0104 Rozvojová studia pro PGS (doc. RNDr. Josef Novotný, Ph.D.) MPGS0099 Teorie politické geografie pro PGS (prof. Petr Dostál, M.A., Ph.D.) MPGS0098 Teorie regionální geografie pro PGS (doc. RNDr. Pavel Chromý, Ph.D.) MPGS0088 Teorie sociální geografie pro PGS (prof. RNDr. Luděk Sýkora, Ph.D.)</p> <p>3.2 Courses at other universities: Not specified.</p> <p>Other courses are chosen according to the dissertation topic.</p> <p>At least two courses need to be taken and successfully finished by the end of the second year; the rest in the third year. Before applying for the state doctoral exam (MSZXZ005), the student has to pass the Theoretical-methodological considerations (SGR, MPGS0121); the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is submitted electronically together with the application for the state doctoral exam at the Department of Student Affairs. A copy is provided to the coordinator of doctoral studies at the department. The state doctoral exam MSZXZ005 Social Geography and Regional Development has to be passed by the end of the second year.</p> <p>State doctoral exam and dissertation defence</p> <p>For registration for the state doctoral exam (should be passed by the end of the second year) the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations.</p> <p>In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, 4 ppt slides presentation allowed). It is followed by a discussion. In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories (e.g. crucial theoretical concepts and researchers) and methodological approaches in the field of geographical education and other relevant fields (geography, pedagogy, psychology, general didactics, geoinformatics, cartography etc.). Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wide context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence has to prove the student's ability to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p>

Study programme and form of study	Requirements
	<p>Study stay abroad</p> <p>The students have to go abroad to study or to conduct research abroad (for the topic related their dissertation). The stay is at least one month long. In SIS, it is included in the "Internship</p> <p>Dissertation and publications</p> <p>Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with affiliation to the department are accepted. In case of collective work, the students has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least one has to be published in a journal with IF (according to the Web of Science) and the student has to be the first author. The set of publications can include a chapter in a peer-reviewed book. The publications must form a logically organized thematic set. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph: The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in a journal with IF (according to the Web of Science) and the student has to be the first author. One article can be replaced by a chapter in a peer-reviewed book. The publications must be related to the topic of the dissertation.</p> <p>Teaching activities Not required.</p> <p>The presence at the department, in hours per week Not required.</p> <p>Specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended) During the course of studies, the students have to participate actively at least in one conference in Czechia and one abroad.</p>
<p>Didactics of Chemistry (P0111D300004)</p> <p>full-time</p>	<p>The individual study plan must contain at least three courses, language exam, progress in writing dissertation, publications, teaching activities, participation in events related to the didactics of chemistry and internship at another institution, preferably abroad.</p> <p>Each student has to take at least one course in the field of pedagogy/psychology, in the field of didactics of chemistry and in the field of chemistry. The courses should be selected preferably from those offered for doctoral students and registered with all the necessary information. From the first to the fourth grade, the students are obliged to participate actively in the seminars for doctoral students. The students are obliged to take an English exam (or another language exam if relevant; state exam, a certified exam or an exam at the department of language preparation of PhD candidates at one of the faculties in Czechia).</p> <p>Teaching activities can take place on the university level, secondary school level or primary school level. The participation at seminars and conferences on didactics of chemistry is obligatory at least once year. The internship at another institution should last at least one month.</p> <p>State doctoral exam is in a combined form. The oral part of the exam consists of three thematic areas:</p> <p>a) didactics of chemistry included general didactics of chemistry, didactics of general and inorganic chemistry and didactics of organic chemistry and biochemistry</p>

Study programme and form of study	Requirements
	<p>b) pedagogical-psychological area includes pedagogy, psychology and general didactics c) chemistry includes inorganic chemistry, organic chemistry, analytic chemistry, physical chemistry, biochemistry</p> <p>For the state exam, the students choose one course for each thematic area.</p> <p>The second part of the state doctoral exam is a written text of a length between 25 and 35 pages. The content and length is determined by the supervisor according to the student's individual study plan. The supervisor provides an assessment of the text for the examining committee.</p> <p>Dissertation is submitted in a form of a scientific text that is between 120 and 200 pages long (appendices included). The students are expected to present their results regularly. This can be done by a contribution to a peer-reviewed scientific journal or by being an author or a co-author of a monograph or its chapter. For the defence, at least two scientific articles in a peer-reviewed scientific journal are required. One of the articles can be substituted by authorship or co-authorship of a peer-reviewed monograph (at least 50 pages) or a chapter in a monograph (at least 20 pages).</p>
<p>Didactics of Chemistry (P0111D300004) combined</p>	<p>The individual study plan must contain at least three courses, language exam, progress in writing dissertation, publications, teaching activities, participation in events related to the didactics of chemistry and internship at another institution, preferably abroad.</p> <p>Each student has to take at least one course in the field of pedagogy/psychology, in the field didactics of chemistry and in the field of chemistry. The courses should be selected preferably from those offered for doctoral students and registered with all the necessary information. From the first to the fourth grade, the students are obliged to participate actively in the seminars for doctoral students. The students are obliged to take an English exam (or another language exam if relevant; state exam, a certified exam or an exam at the department of language preparation of PhD candidates at one of the faculties in Czechia).</p> <p>Teaching activities can take place on the university level, secondary school level or primary school level. The participation at seminars and conferences on didactics of chemistry is obligatory at least once year. The internship at another institution should last at least one month.</p> <p>State doctoral exam is in a combined form. The oral part of the exam consists of three thematic areas:</p> <p>a) didactics of chemistry included general didactics of chemistry, didactics of general and inorganic chemistry and didactics of organic chemistry and biochemistry b) pedagogical-psychological area includes pedagogy, psychology and general didactics c) chemistry includes inorganic chemistry, organic chemistry, analytic chemistry, physical chemistry, biochemistry</p> <p>For the state exam, the students choose one course for each thematic area.</p> <p>The second part of the state doctoral exam is a written text of a length between 25 and 35 pages. The content and length is determined by the supervisor according to the student's individual study plan. The supervisor provides an assessment of the text for the examining committee.</p> <p>Dissertation is submitted in a form of a scientific text that is between 120 and 200 pages long (appendices included). The students are expected to present their results regularly. This can be done by a contribution to a peer-reviewed scientific journal or by being an author or a co-author of a monograph or its chapter. For the defence, at least two scientific articles in a peer-reviewed scientific journal are required. One of the articles can be substituted by authorship or co-authorship of a peer-reviewed monograph (at least 50 pages) or a chapter in a monograph (at least 20 pages).</p>
<p>Ecology (P0511D030025)</p>	<p>The number of exams is not fixed, the curriculum must be drawn up in cooperation with the supervisor. Each student will present twice in specialized seminars: once in the first year of study and second in the third year. These seminars are held in English.</p>

Study programme and form of study	Requirements
full-time	<p>The dissertation thesis consists of a general summary and attached scientific papers - published or accepted peer-reviewed articles (or book chapters or other types of peer-review scientific publications) or unpublished manuscripts (prepared for publication). The total number of manuscripts and publications required is at least three; at least one publication must be published or received in the press in a journal whose impact factor according to ISI Web of Science was at the time of acceptance of manuscript 1 or higher, or at least two publications published or accepted in the press in journals whose impact factor was at the time of receipt or higher. At least one of the accepted paper should be the first-authored. The introduction of the dissertation should not only be a brief summary of the content of the attached works, but should put them in a broader context. If the work does not contain a separate chapter with a generalizing conclusion, a passage of similar content in the introduction should be included. The focus of the work is on manuscripts which can be expected to pass a successful peer review in impacted journals).</p> <p>A language exam is not required.</p> <p>Students are not obliged to take part in teaching, but it is positively acknowledged when they help in practice, especially in the field.</p> <p>Internships are not a mandatory part of the ISP, but are highly recommended.</p>
Ecology (P0511D030025) combined	<p>The number of exams is not fixed, the curriculum must be drawn up in cooperation with the supervisor. Each student will present twice in specialized seminars: once in the first year of study and second in the third year. These seminars are held in English.</p> <p>The dissertation thesis consists of a general summary and attached scientific papers - published or accepted peer-reviewed articles (or book chapters or other types of peer-review scientific publications) or unpublished manuscripts (prepared for publication). The total number of manuscripts and publications required is at least three; at least one publication must be published or received in the press in a journal whose impact factor according to ISI Web of Science was at the time of acceptance of manuscript 1 or higher, or at least two publications published or accepted in the press in journals whose impact factor was at the time of receipt 0.5 or higher. At least one of the accepted paper should be the first-authored. The introduction of the dissertation should not only be a brief summary of the content of the attached works, but should put them in a broader context. If the work does not contain a separate chapter with a generalizing conclusion, a passage of similar content in the introduction should be included. The work is written in English. The focus of the work is on manuscripts which can be expected to pass a successful peer review in impacted journals).</p> <p>A language exam is not required.</p> <p>Students are not obliged to take part in teaching, but it is positively acknowledged when they help in practice, especially in the field.</p> <p>Internships are not a mandatory part of the ISP, but are highly recommended. If a student do not go on an internship, it is assumed that his / her international activities are realized in the form of participation in projects with international participation and in publications with foreign co-authors. Participation in conferences abroad is also required.</p>
Environmental Science (P0521D030008) full-time	<p>Study requirements</p> <p>1st year: 1–2 courses according to the individual study plan and the topic of the doctoral dissertation 2nd year: 0–1 courses according to the individual study plan and the topic of the doctoral dissertation 1st–2nd year: MO550K01 Annual PhD Conference – a compulsory course during which the students present partial results of their research 3rd–4th year: active presentation at the Annual PhD Conference</p> <p>Requirements for academic research</p> <p>Four thematically connected publications of the research results, of which:</p>

Study programme and form of study	Requirements
	<ul style="list-style-type: none"> • at least one must be published in a journal with IF (Jimp) and one in a journal in the Scopus database (Jsc) • other (at least two) publications can be in the form of a manuscript ready for the review process • the student must be the first author of at least one of the aforementioned publications (this can be a work accepted for publication after peer review) <p>Requirements for internships</p> <p>In accordance with the standards of the Charles University study programmes, one of the requirements of the individual doctoral study plan is to complete part of the study at a foreign institution (for a cumulative period of at least one month) or directly participate in international cooperation in another form. Longer research stays are desirable but not mandatory.</p> <p>Other study requirements</p> <p>Active participation at an international/national conference.</p> <p>State doctoral examination and defence of dissertation thesis</p> <p>The selection of the study subjects for the state doctoral examination is dependent on the topic of the doctoral dissertation and the individual study plan of the candidate. The exam typically consists of one primary and one secondary study subject chosen from the six below. The primary subject is determined according to the specialization of the doctoral dissertation. The secondary subject (a related field of study) extends and supplements the knowledge of the candidate. The subjects are proposed by the chair of the Subject Area Board after consultation with the members of the board and the candidate's supervisor. For interdisciplinary projects, another relevant topic can be the subject of examination.</p> <p>The students are advised to consult the selection of suitable study subjects with the chair of the Subject Area Board.</p> <p>In accordance with the [http://www.cuni.cz/UKEN-121.html - Study and Examination Code of the Charles University], the state doctoral examination consists of one part, which comprises the two chosen subjects. The study subjects match the main scopes of environmental sciences</p> <ol style="list-style-type: none"> 1) meteorology, climatology, atmospheric chemistry, air quality protection 2) hydrochemistry, limnology, water quality protection 3) ecology, biodiversity conservation 4) pedology, geochemistry, geological environment protection 5) general and special methodology in environmental sciences 6) ecotoxicology and environmental chemistry
<p>Environmental Science (P0521D030008) combined</p>	<p>Study requirements</p> <p>1st year: 1–2 courses according to the individual study plan and the topic of the doctoral dissertation</p> <p>2nd year: 0–1 courses according to the individual study plan and the topic of the doctoral dissertation</p> <p>1st–2nd year: MO550K01 Annual PhD Conference – a compulsory course during which the students present partial results of their research</p> <p>3rd–4th year: active presentation at the Annual PhD Conference</p> <p>Requirements for academic research</p> <p>Four thematically connected publications of the research results, of which:</p> <ul style="list-style-type: none"> • at least one must be published in a journal with IF (Jimp) and one in a journal in the Scopus database (Jsc) • other (at least two) publications can be in the form of a manuscript ready for the review process • the student must be the first author of at least one of the aforementioned publications (this can be a work accepted for publication after peer review)

Study programme and form of study	Requirements
	<p>Requirements for internships</p> <p>In accordance with the standards of the Charles University study programmes, one of the requirements of the individual doctoral study plan is to complete part of the study at a foreign institution (for a cumulative period of at least one month) or directly participate in international cooperation in another form. Longer research stays are desirable but not mandatory.</p> <p>Other study requirements</p> <p>Active participation at an international/national conference.</p> <p>State doctoral examination and defence of dissertation thesis</p> <p>The selection of the study subjects for the state doctoral examination is dependent on the topic of the doctoral dissertation and the individual study plan of the candidate. The exam typically consists of one primary and one secondary study subject chosen from the six below. The primary subject is determined according to the specialization of the doctoral dissertation. The secondary subject (a related field of study) extends and supplements the knowledge of the candidate. The subjects are proposed by the chair of the Subject Area Board after consultation with the members of the board and the candidate's supervisor. For interdisciplinary projects, another relevant topic can be the subject of examination.</p> <p>The students are advised to consult the selection of suitable study subjects with the chair of the Subject Area Board.</p> <p>In accordance with the [http://www.cuni.cz/UKEN-121.html - Study and Examination Code of the Charles University], the state doctoral examination consists of one part, which comprises the two chosen subjects. The study subjects match the main scopes of environmental sciences</p> <ol style="list-style-type: none"> 1) meteorology, climatology, atmospheric chemistry, air quality protection 2) hydrochemistry, limnology, water quality protection 3) ecology, biodiversity conservation 4) pedology, geochemistry, geological environment protection 5) general and special methodology in environmental sciences 6) ecotoxicology and environmental chemistry
<p>Experimental Plant Biology (P0511D030034)</p> <p>full-time</p>	<p>The key duty of doctoral students is active scientific activity in the field of dissertation and deepening of expert knowledge of plant biology. The primary goal of doctoral studies is to learn the methods of scientific work and thinking so that the graduate is able to independently define and solve a scientific problem, critically assess the results achieved and process them for publication in internationally recognized scientific journals.</p> <p>Individual study plan</p> <p>After being accepted to study, the student prepares an individual study plan (ISP; a short version of approx. ½ - 1 page, which is entered into SIS) in cooperation with the supervisor. The plan contains a brief description of the intended experimental work and a list of planned study obligations that must be fulfilled before submitting the application for the state doctoral examination (SDE). Completion of the SDE is recommended by the end of the 3rd year of study and should be completed before the end of the 4th year of the study. The courses are chosen jointly by the student and the supervisor, taking into account previous studies. In case of students who obtained their master degrees at the Department of Experimental Plant Biology, Faculty of Science, Charles University, or have obtained a similar degree elsewhere, do not have to include any courses in their plan. The students who have obtained their master degree in a different field are expected to take more courses in order to level up their knowledge (such a plan is prepared together with the head of the Board for PhD Studies in EPB). A formal English exam is not required. Doctoral students are expected to have sufficient knowledge of English for everyday scientific communication, both written and spoken. The student's knowledge of English is confirmed by presenting their results. Students are expected to have at least one poster and one oral presentation in English at a conference (including student conferences, e.g. organized by the Czech Society of Experimental Plant Biology, where students can select a form of their presentation).</p>

Study programme and form of study	Requirements
	<p>Further requirements throughout the studies</p> <p>During the first year, the student prepares, together with the supervisor, a detailed ISP – it is then submitted to the Board for Ph.D. Studies in Experimental Plant Biology. The text should be 2–3 pages long, including a short introduction to the topic, aim, hypotheses, methods, references and a detailed plan of experiments in the first year in the range of a grant project proposal of GAUK. The document is archived by the subject-area board and it is used as a material for student's evaluation, especially by those members of the subject-area board who work on related topics. The students also discuss his research with these members of the subject-area board.</p> <p>During the first, second and at the beginning of the fourth grade (and eventually every next year), the student presents their work in front of the Board for Ph.D. Studies EPB and the work department (the students of the first year present their detailed study plan). Presentations are in English (or Czech if preferable). The supervisor participates in the presentation, who after the presentation will briefly evaluate the doctoral student's results so far. In the subsequent discussion, emphasis is placed on the scientific level of the solved project (especially in relation to the publishability of the results in renowned international journals) and on the independence and orientation of the student in the solved problem. The conclusion is recommendations for the further solution of the doctoral project. The level of the presentation and subsequent discussion is reflected in the doctoral student's annual evaluation. The supervisor and OR comment on the progress of the doctoral studies at least once a year.</p> <p>During the studies, at least one scientific stay abroad is expected. The length and character of such a stay depends on the individual needs of the doctoral project. The length must be at least one month, the recommended length is between 3 and 6 months. Such a stay does not have to be accomplished by students from abroad.</p> <p>It is also recommended that the student be actively involved in the preparation of grant projects at the workplace where they work. At the same time, the student usually prepares their own grant proposal (e.g. GA UK).</p> <p>Pedagogical activity is welcome and desirable to a reasonable extent, especially within the framework of the practical course provided by the Department of Experimental Plant Biology, Faculty of Science, Charles University. The doctoral student can also participate in the supervision of bachelor's theses and their reviewing, or also for the supervision of diploma theses (usually in cooperation with the supervisor) and their reviewing.</p> <p>Publications</p> <p>Documentable publication activity of the student is a condition for defending the dissertation. The requirements for publication activity depend on the chosen form of work:</p> <p>1) The shortened form of dissertation is a set of at least three scientific texts accompanied by commentary. The scientific texts included can be articles in journals with impact factor or chapters in monographs related to the doctoral project. These publications must be already published or accepted for publication. At least one original paper, where the student is the first author, must be published in a journal with an IF of approximately the field median. In the case of a publication with IF in the first quartile of the field, where the doctoral student is the first author, it is possible to have a total of only 2 publications sent or accepted and a third or another in the form of a manuscript prepared for submission.</p> <p>2) The dissertation in the classical form of a complete manuscript (or scientific monograph) must be supported by at least one original scientific work published or accepted for publication in a journal with an IF above the median of the field related to the topic of the dissertation, where the student is the first author. In such a case, the Board members who work on similar topics to dissertation and reviewers of the thesis will assess whether the thesis contains a sufficient number of appropriately designed and technically well-executed experiments and a relevant discussion of the obtained results.</p>
<p>Experimental Plant Biology (P0511D030034) combined</p>	<p>The key duty of doctoral students is active scientific activity in the field of dissertation and deepening of expert knowledge of plant biology. The primary goal of doctoral studies is to learn the methods of scientific work and thinking so that the graduate is able to independently define and solve a scientific problem, critically assess the results achieved and process them for publication in internationally recognized scientific journals.</p>

Study programme and form of study	Requirements
	<p>Individual study plan</p> <p>After being accepted to study, the student prepares an individual study plan (ISP; a short version of approx. ½ - 1 page, which is entered into SIS) in cooperation with the supervisor. The plan contains a brief description of the intended experimental work and a list of planned study obligations that must be fulfilled before submitting the application for the state doctoral examination (SDE). Completion of the SDE is recommended by the end of the 3rd year of study and should be completed before the end of the 4th year of the study. The courses are chosen jointly by the student and the supervisor, taking into account previous studies. In case of students who obtained their master degrees at the Department of Experimental Plant Biology, Faculty of Science, Charles University, or have obtained a similar degree elsewhere, do not have to include any courses in their plan. The students who have obtained their master degree in a different field are expected to take more courses in order to level up their knowledge (such a plan is prepared together with the head of the Board for PhD Studies in EPB). A formal English exam is not required. Doctoral students are expected to have sufficient knowledge of English for everyday scientific communication, both written and spoken. The student's knowledge of English is confirmed by presenting their results. Students are expected to have at least one poster and one oral presentation in English at a conference (including student conferences, e.g. organized by the Czech Society of Experimental Plant Biology, where students can select a form of their presentation).</p> <p>Further requirements throughout the studies</p> <p>During the first year, the student prepares, together with the supervisor, a detailed ISP – it is then submitted to the Board for Ph.D. Studies in Experimental Plant Biology. The text should be 2–3 pages long, including a short introduction to the topic, aim, hypotheses, methods, references and a detailed plan of experiments in the first year in the range of a grant project proposal of GAUK. The document is archived by the subject-area board and it is used as a material for student's evaluation, especially by those members of the subject-area board who work on related topics. The students also discuss his research with these members of the subject-area board.</p> <p>During the first, second and at the beginning of the fourth grade (and eventually every next year), the student presents their work in front of the Board for Ph.D. Studies EPB and the whole department (the students of the first year present their detailed study plan). Presentations are in English (or Czech if preferable). The supervisor participates in the presentation, who after the presentation will briefly evaluate the doctoral student's results so far. In the subsequent discussion, emphasis is placed on the scientific level of the solved project (especially in relation to the publishability of the results in renowned international journals) and on the independence and orientation of the student in the solved problem. The conclusion is recommendations for the further solution of the doctoral project. The level of the presentation and subsequent discussion is reflected in the doctoral student's annual evaluation. The supervisor and OR comment on the progress of the doctoral studies at least once a year.</p> <p>During the studies, at least one scientific stay abroad is expected. The length and character of such a stay depends on the individual needs of the doctoral project. The length must be at least one month, the recommended length is between 3 and 6 months. Such a stay does not have to be accomplished by students from abroad.</p> <p>It is also recommended that the student be actively involved in the preparation of grant projects at the workplace where they work. At the same time, the student usually prepares their own grant proposal (e.g. GAUK).</p> <p>Pedagogical activity is welcome and desirable to a reasonable extent, especially within the framework of the practical course provided by the Department of Experimental Plant Biology, Faculty of Science, Charles University. The doctoral student can also participate in the supervision of bachelor's theses and their reviewing, or also for the supervision of diploma theses (usually in cooperation with the supervisor) and their reviewing.</p> <p>Publications</p> <p>Documentable publication activity of the student is a condition for defending the dissertation. The requirements for publication activity depend on the chosen form of work:</p>

Study programme and form of study	Requirements
	<p>1) The shortened form of dissertation is a set of at least three scientific texts accompanied by commentary. The scientific texts included can be articles in journals with impact factor or chapters in monographs related to the doctoral project. These publications must be already published or accepted for publication. At least one original paper, where the student is the first author, must be published in a journal with an IF of approximately the field median. In the case of a publication with IF in the first quartile of the field, where the doctoral student is the first author, it is possible to have a total of only 2 publications sent or accepted and a third or another in the form of a manuscript prepared for submission.</p> <p>2) The dissertation in the classical form of a complete manuscript (or scientific monograph) must be supported by at least one original scientific work published or accepted for publication in a journal with an IF above the median of the field related to the topic of the dissertation, where the student is the first author. In such a case, the Board members who work on similar topics to dissertation and reviewers of the thesis will assess whether the thesis contains a sufficient number of appropriately designed and technically well-executed experiments and a relevant discussion of the obtained results.</p>
<p>General Geography (P0532D330019) full-time</p>	<p>1. Required courses In the first year, the students have to take the course MPGS0119 Obecné kolokvium/General colloquium (OG) and one other course related to the topic of the dissertation. The courses are selected after discussion with the supervisor. The other courses are also selected after discussion with the supervisor and they need to be taken before registering for the state examination. Before applying for the state doctoral exam (MSZXZ011), the student has to pass the Theoretical-methodological considerations (OG, MPGS0122); the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is handed-in at the end of the first year of study together with the annual assessment in SIS. The application for state doctoral examination is submitted at the Department of Student Affairs. The state doctoral exam MSZXZ011 General Geography has been passed by the end of the third semester.</p> <p>2. State doctoral exam and dissertation defence For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations. In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, without ppt presentation). This is assessed by an external opponent (who is not a member of student's research team nor the student's department) who asks follow-up questions. The student answers the questions (without knowing them in advance). This is followed by a discussion. In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories and methodological approaches. Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations. The dissertation defence has to prove the student's skills to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP and requirements by the Subject-Area Board fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over. The opponents are selected from outside of the student's research team, usually from a different department and often from abroad.</p> <p>3. Study stay abroad During the standard period of study, the students have to go abroad to study or to conduct research abroad for at least for one month (for the topic related to their dissertation). The students have to register their stay abroad in SIS in the module "Internships".</p> <p>4. Publications Dissertation can consist of several scientific articles or it can be a scientific monograph. Both</p>

Study programme and form of study	Requirements
	<p>forms require publications, as specified below. Only publications with student's affiliation to the department are accepted. In case of collective work, the student has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least two have to be published in journals included in the databases of Social Sciences Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution in at least one of them. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The first of the articles must be ready to be sent to the journal board by the end of the second year of study. The last (fourth) of the articles included (except the article published in one of the journals above where the student's contribution is at least 50%) can be only "accepted for the review process" (but not only sent to a board or an editor) at the moment of the defence (it is necessary to provide a confirmation). The publications must form a logically organized thematic set whose content is related to the dissertation. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph (150 to 300 pages): The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in journals included in the databases of Social Sciences Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution. The first of the articles should be ready to be sent to the journal board by the end of the second year of study. The second article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The publications must be related to the topic of the dissertation.</p> <p>5. Teaching activities Not required. The teaching activities are coordinated by the supervisor and the head of the department. If the classes are more frequent than one-time classes, these are financially reimbursed.</p> <p>6. The presence at the department The students in the full-time study programme and in the standard period of study are present at the department. The students take part in everyday activities of the department, especially organizing entrance exams, PR activities, workshops, etc. The students attend the dissertation defences in their study programme and they attend lectures of visiting scholars.</p> <p>7. Other specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended) The student's progress is regularly assessed via ISP, usually twice a year. The student has to present their dissertation project actively at conferences (at least one local and one international).</p> <p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p> <p>Approved by the subject-area board on 15. 8. 2023.</p>
General Geography (P0532D330019)	<p>1. Required courses A doctoral student must complete all prescribed courses according to the ISP by the end of the 3rd year of study, including the state doctoral examination. The courses are MPGS0117 General colloquium and one other course selected by the supervisor. Other courses are selected</p>

Study programme and form of study	Requirements
combined	<p>after discussion with the supervisor or they can be required by the Subject-Area Board. The courses are successfully finished by the second year of study.</p> <p>Before applying for the state doctoral exam (MSZXZ011), the student has to pass the Theoretical-methodological considerations (OG, MPGS0122); the design of the consideration is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is handed in electronically by the second year of study together with the annual assessment in SIS. The application for state doctoral examination is submitted at the Department of Student Affairs.</p> <p>2. State doctoral exam and dissertation defence</p> <p>For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations.</p> <p>In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, without ppt presentation). This is assessed by an external opponent (who is not a member of student's research team nor the student's department) who asks follow-up questions. The student answers the questions (without knowing them in advance). This is followed by a discussion. In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories and methodological approaches. Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence has to prove the student's skills to defend own results in a wider context and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP and requirements by the Subject Area Board fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over. The opponents are selected from outside of the student's research team, usually from a different department and often from abroad.</p> <p>3. Study stay abroad</p> <p>During the standard period of study, the students are advised to go abroad to study, to conduct research abroad or work on projects of international cooperation (for the topic related to their dissertation). The students have to register their stay abroad in SIS in the module "Internship</p> <p>4. Publications</p> <p>Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with affiliation to the department are accepted. In case of collective work, the student has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications:</p> <p>The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least two have to be published in journals included in the databases of Social Sciences Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution in at least one of them. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The first of the articles must be ready to be sent to the journal board by the end of the second year of study. The last (fourth) of the articles included (except the article published in one of the journals above where the student's contribution is at least 50%) can be only "accepted for the review process" (but not only sent to a board or an editor) at the moment of the defence (it is necessary to provide a confirmation).</p> <p>The publications must form a logically organized thematic set whose content is related to the dissertation. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the</p>

Study programme and form of study	Requirements
	<p>conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph (150 to 300 pages): The student has to publish at least two scientific articles in peer-reviewed scientific journals. at least one of them has to be published in journals included in the databases of Social Science Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution. The first of the articles should be ready to be sent to the journal board by the end of the second year of study. The second article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The publications must be related to the topic of the dissertation.</p> <p>5. Teaching activities Not required. The teaching activities are coordinated by the supervisor and the head of the department. If the classes are more frequent than one-time classes, these are financially reimbursed.</p> <p>6. The presence at the department, in hours per week Is not required.</p> <p>7. Other specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended) The student's progress is regularly assessed via ISP, usually twice a year. The student has to present their dissertation project actively at conferences (at least one local and one international).</p> <p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p> <p>Approved by the subject-area board on 15. 8. 2023.</p>
<p>Geoinformatics, Cartography and Remote Sensing (P0532D330023)</p> <p>full-time</p>	<p>Required courses</p> <p>The study plan includes at least 3 courses (completed with an exam) related to the topic of dissertation. At least one of the courses has to be taken outside the Faculty of Science (even abroad). At least half of the courses need to be taken and successfully finished in the first year, the rest in the second year. In each year, the PhD candidate presents (and therefore proves) their progress in dissertation writing during a seminar for PhD students. The preparation for the seminar can be used for the annual evaluation and the discussion at the seminar can help the supervisor and the subject-area board in their assessment of the student's work. Before applying for the state doctoral exam, the student has to pass the Theoretical-methodological considerations; the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is submitted electronically together with the application for the state doctoral exam at the Department of Student Affairs. A copy is provided to the coordinator of doctoral studies at the department.</p> <p>Other requirements for the four years of study:</p> <p>1st year of study: At the end of the first year, the student has to have one article published or received for publication in peer-reviewed journal (ideally with an impact factor), or a manuscript sent to such a journal (in such case the relevance of the article will be assessed by the subject-area board).</p> <p>2nd – 3rd year: In this period, the student publishes at least two articles, at least one of them in a foreign journal with an impact factor. At least once during this period, the student has to present own work at a conference in Czechia and once at a conference abroad.</p> <p>The state doctoral exam is recommended to be taken by the end of the second year and it has to be taken by the end of the third year at the latest.</p> <p>Requirements on written production</p>

Study programme and form of study	Requirements
	<p>By written production, it is mainly meant work on dissertation and preparation of scientific articles on topics related to the dissertation project. The students are advised to take part in preparation and realization of grant projects at their department. Usually, the students prepare their own application for a grant funded by GA UK, related to the topics of dissertation.</p> <p>Dissertation can consist of a monothematic set of scientific articles or it can be a scientific monograph. It contains original and published results or results accepted for publication.</p> <p>Obligatory publications before the thesis defence:</p> <p>1) Dissertation as a monograph: The student has to publish at least three scientific articles in peer-reviewed scientific journals. At least two of them have to be published in a journal with impact factor (at least one in a journal abroad). The student has to be the first author of at least one of the articles.</p> <p>2) Dissertation as a set of publications: The student has to publish at least four scientific texts (articles in peer-reviewed scientific journals, chapters in peer-reviewed monographs published by renowned publishers, e.g. Academia, Nakladatelství ČGS, Springer). At least two have to be published in a journal with IF. The student has to be the first author of at least one of the articles. The publications must form a logically organized thematic set. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>The publications accepted for 1) and 2) have to meet the following conditions: a) they are related to the dissertation project b) if a publication is a collective one, the student's contribution is significant and it includes scientific work, not only formal aspects c) only publications with affiliation to the department are accepted.</p> <p>For the collective publications, the student's contribution has to be specified – such specification is included in the introduction of the dissertation. If the text has not been published yet, the student has to submit a confirmation of acceptance for publication. For both types of dissertation, it is acceptable that one of the publications is under review (the student provides confirmation of the submission for a review). In such case, the quality of the text is assessed by the opponents and the committee.</p> <p>Study stay abroad</p> <p>During the standard period of study, the students have to go abroad to study or to conduct research (for the topic related to their dissertation). The length and the character of the stay are related to the specific requirements of the dissertation project. The stay is at least one month long; the recommended length is 3 to 6 months. In exceptional cases, when such stay cannot be realized, the student takes part in international cooperation in a different way, for instance direct participation in an international research project.</p> <p>State doctoral exam and dissertation defence</p> <p>For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations.</p> <p>The exam has a form of a discussion of the theoretical-methodological considerations. The students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes). The committee members verify the student's ability to relate a research problem to general theories and methodological approaches. During the discussion, the committee assesses the student's knowledge in one of the study topics (geographical information systems, cartography or remote sensing), according to the dissertation project. The students are expected to have detailed and updated knowledge and be able to interpret them in a wider context, also in the other two study topics.</p> <p>The dissertation defence has to prove the student's ability to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have</p>

Study programme and form of study	Requirements
	<p>pass the state doctoral exam and to have all the duties in the ISP fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p> <p>Teaching activities</p> <p>The students usually participate in teaching activities (lectures, seminars, excursions, life-long learning programmes, etc.) and are also supervisors and opponents of bachelor theses (sometimes also master theses). The teaching activities of the student are coordinated by the supervisor and the head of department. If the classes taught are not directly linked to the doctoral theses and/or are more frequent than one-time classes, these are financially reimbursed (by a separate contract).</p> <p>The presence and activities at the department, in hours per week</p> <p>The students in the full-time study programme and in the standard period of study are present at the department at least for 12 hours per week. The students take part in everyday activities of the department, especially in organizing entrance exams, PR activities, workshops, etc. The students attend the dissertation defences in their study programme and they attend lectures by visiting scholars.</p>
<p>Geoinformatics, Cartography and Remote Sensing (P0532D330023) combined</p>	<p>Required courses</p> <p>The study plan includes at least 3 courses (completed with an exam) related to the topic of dissertation. At least one of the courses has to be taken outside the Faculty of Science (ever abroad). At least half of the courses need to be taken and successfully finished in the first year, the rest in the second year. In each year, the PhD candidate presents (and therefore proves) their progress in dissertation writing during a seminar for PhD students. The preparation for the seminar can be used for the annual evaluation and the discussion at the seminar can help the supervisor and the subject-area board in their assessment of the student's work. Before applying for the state doctoral exam, the student has to pass the Theoretical-methodological considerations; the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is submitted electronically together with the application for the state doctoral exam at the Department of Student Affairs. A copy is provided to the coordinator of doctoral studies at the department.</p> <p>Other requirements for the four years of study:</p> <p>1st year of study: At the end of the first year, the student has to have one article published or received for publication in peer-reviewed journal (ideally with an impact factor), or a manuscript sent to such a journal (in such case the relevance of the article will be assessed by the subject-area board).</p> <p>2nd – 3rd year: In this period, the student publishes at least two articles, at least one of them in a foreign journal with an impact factor. At least once during this period, the student has to present own work at a conference in Czechia and once at a conference abroad.</p> <p>The state doctoral exam is recommended to be taken by the end of the second year and it has to be taken by the end of the third year at the latest.</p> <p>Requirements on written production</p> <p>By written production, it is mainly meant work on dissertation and preparation of scientific articles on topics related to the dissertation project. The students are advised to take part in preparation and realization of grant projects at their department. Usually, the students prepare their own application for a grant funded by GA UK, related to the topics of dissertation.</p> <p>Dissertation can consist of a monothematic set of scientific articles or it can be a scientific monograph. It contains original and published results or results accepted for publication.</p> <p>Obligatory publications before the thesis defence:</p> <p>1) Dissertation as a monograph: The student has to publish at least three scientific articles in peer-reviewed scientific journals. At least two of them have to be published in a journal with</p>

Study programme and form of study	Requirements
	<p>impact factor (at least one in a journal abroad). The student has to be the first author of at least one of the articles.</p> <p>2) Dissertation as a set of publications: The student has to publish at least four scientific texts (articles in peer-reviewed scientific journals, chapters in peer-reviewed monographs published by renowned publishers, eg. Academia, Nakladatelství ČGS, Springer). At least two have to be published in a journal with IF. The student has to be the first author of at least one of the articles. The publications must form a logically organized thematic set. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>The publications accepted for 1) and 2) have to meet the following conditions: a) they are related to the dissertation project b) if a publication is a collective one, the student's contribution is significant and it includes scientific work, not only formal aspects c) only publications with affiliation to the department are accepted.</p> <p>For the collective publications, the student's contribution has to be specified – such specification is included in the introduction of the dissertation. If the text has not been published yet, the student has to submit a confirmation of acceptance for publication. For both types of dissertation, it is acceptable that one of the publications is under review (the student provides confirmation of the submission for a review). In such case, the quality of the text is assessed by the opponents and the committee.</p> <p>Study stay abroad</p> <p>During the standard period of study, the students usually go abroad to study or to conduct research (for the topic related to their dissertation). The length and the character of the stay are related to the specific requirements of the dissertation project. The stay is at least one month long; the recommended length is 3 to 6 months. In exceptional cases, when such stay cannot be realized, the student takes part in international cooperation in a different way, for instance direct participation in an international research project.</p> <p>State doctoral exam and dissertation defence</p> <p>For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations.</p> <p>The exam has a form of a discussion of the theoretical-methodological considerations. The students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes). The committee members verify the student's ability to relate a research problem to general theories and methodological approaches. During the discussion, the committee assesses the student's knowledge in one of the study topics (geographical information systems, cartography or remote sensing), according to the dissertation project. The students are expected to have detailed and updated knowledge and be able to interpret them in a wider context, also in the other two study topics.</p> <p>The dissertation defence has to prove the student's ability to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p> <p>Teaching activities</p> <p>Not required.</p> <p>The presence and activities at the department, in hours per week</p> <p>Not required.</p>

Study programme and form of study	Requirements
<p>Geology (P0532D330013)</p> <p>full-time</p>	<p>The individual study plan (ISP) must contain at least two and no more than five courses on the master level (or higher) related to the topic of the dissertation. The courses (and the exams) taken in accordance with the individual study plan, usually during the first two years of their studies. The state doctoral exam should be passed during the second year of the studies, during the third year the latest. The state doctoral exam includes two (or if relevant also more thematic areas related to the dissertation topic and the courses taken by the candidate. The students of the combined study programmes are recommended to complete the ISP (incl. state doctoral exam) by the fourth year of studies. The ISP can contain short courses both in Czech and abroad. The participation at seminars of the institute and section and other scientific activities at the faculty is an inherent part of doctoral studies. Every year, the subject-area board organized days of doctoral studies where the students present their preliminary results (the presentation is in English). The full-time students are obliged to participate; the students the combined form of study are expected to participate at least once in two years.</p> <p>The classic form of dissertation means a monograph that includes an introduction, critical evaluation of existing research, research questions, methods overview, results and their discussion, summary and assessment of scientific contribution. As a part or a supplement of monograph dissertation, the student must provide at least one article published or accepted for publication in a journal with IF (included in the Web of Science database, ideally in the first or the second quartile, i.e. Q1 or Q2). The topic of the article must be closely related to the topic of the dissertation and the candidate must be the first author. The expected length of dissertation is 150 to 250 pages, including text figures and bibliography (without appendices).</p> <p>Dissertation in the cumulative form contains an introduction to accompany scientific publications. The introduction (minimum 15,000 characters) contains an introduction, critical evaluation of the scientific problem, definition of the research question, methods, summary of main results obtained in different publications and their mutual relations. The cumulative dissertation must contain at least three articles in journals with IF (included in the Web of Science database, ideally in the first or the second quartile, i.e. Q1 or Q2). At least two have to be published or accepted for publication, the others can be manuscripts under review and the candidate must be the first author of at least two of them. All the articles must be related to the topic of the dissertation.</p> <p>In both above mentioned forms of dissertation, only publications with clear affiliation to the department at the Faculty of Science, Charles University, can be accepted (either as the only institution or one of several institutions). Publications without affiliation to the Faculty of Science, Charles University, cannot, therefore, be included in the dissertation.</p> <p>The students have to present their results at conferences in Czechia and abroad, be it with a poster or with an oral presentation.</p> <p>The students are also expected to take a professional internship at a renowned scientific institution for at least one month.</p>
<p>Geology (P0532D330013)</p> <p>combined</p>	<p>The individual study plan (ISP) must contain at least two and no more than five courses on the master level (or higher) related to the topic of the dissertation. The courses (and the exams) taken in accordance with the individual study plan, usually during the first two years of their studies. The state doctoral exam should be passed during the second year of the studies, during the third year the latest. The state doctoral exam includes two (or if relevant also more thematic areas related to the dissertation topic and the courses taken by the candidate. The students of the combined study programmes are recommended to complete the ISP (incl. state doctoral exam) by the fourth year of studies. The ISP can contain short courses both in Czech and abroad. The participation at seminars of the institute and section and other scientific activities at the faculty is an inherent part of doctoral studies. Every year, the subject-area board organized days of doctoral studies where the students present their preliminary results (the presentation is in English). The full-time students are obliged to participate; the students the combined form of study are expected to participate at least once in two years.</p> <p>The classic form of dissertation means a monograph that includes an introduction, critical evaluation of existing research, research questions, methods overview, results and their discussion, summary and assessment of scientific contribution. As a part or a supplement of monograph dissertation, the student must provide at least one article published or accepted for publication in a journal with IF (included in the Web of Science database, ideally in the first or the second quartile, i.e. Q1 or Q2). The topic of the article must be closely related to the topic of the dissertation and the candidate must be the first author. The expected length of dissertation is 150 to 250 pages, including text figures and bibliography (without appendices).</p>

Study programme and form of study	Requirements
	<p>the second quartile, i.e. Q1 or Q2). The topic of the article must be closely related to the topic of the dissertation and the candidate must be the first author. The expected length of dissertation is 150 to 250 pages, including text figures and bibliography (without appendices).</p> <p>Dissertation in the cumulative form contains an introduction to accompany scientific publications. The introduction (minimum 15,000 characters) contains an introduction, critical evaluation of the scientific problem, definition of the research question, methods, summary of main results obtained in different publications and their mutual relations. The cumulative dissertation must contain at least three articles in journals with IF (included in the Web of Science database, ideally in the first or the second quartile, i.e. Q1 or Q2). At least two have to be published or accepted for publication, the others can be manuscripts under review and the candidate must be the first author of at least two of them. All the articles must be related to the topic of the dissertation.</p> <p>In both above mentioned forms of dissertation, only publications with clear affiliation to the department at the Faculty of Science, Charles University, can be accepted (either as the only institution or one of several institutions). Publications without affiliation to the Faculty of Science, Charles University, cannot, therefore, be included in the dissertation.</p> <p>The students have to present their results at conferences in Czechia and abroad, be it with a poster or with an oral presentation.</p> <p>The students are also expected to take a professional internship at a renowned scientific institution for at least one month.</p>
<p>Immunology (P0511D030041) full-time</p>	<p>The goal of study is to train students at advanced level in immunology. The students should acquire broad knowledge of the research area, master their research topic, become competent in conducting and planning experiments, get trained in scientific writing, and obtain qualifications which would make them competitive candidates for positions in research, teaching, and technologies internationally.</p> <p>Learning goal 1</p> <p>Students must take at least three study obligations (courses) and schedule them within the first 3 years of study. When preparing their proposal of the individual study plan (ISP) for approval by the Subject area board (Board) in the Study Information System of the Charles University (SIS), students should include all three courses in the plan.</p> <p>(A) All students must take the obligatory “Grant application strategy and preparation of scientific publication” course. After the theoretical background is explained in several lectures, the student will prepare a grant application related to the Ph.D. project in English, using the forms and guidelines of the Grant Agency of the Czech Republic.</p> <p>(B) Students choose at least two study obligations from the list below. Students should actively seek the opinion of their mentors about the suitability of courses with respect to their project. The prerequisite for the inclusion of courses is that students have not passed them in previous or concurrent study programs.</p> <p>Theoretical courses</p> <ul style="list-style-type: none"> • Protein dynamics in development and cancer • Innate immunity • Advances in Immunology 1 • Immunology • Immunology - a practical course • Clinical Cases in Immunology • Immunology - a systems biology view • Animal models in immunology • Evolutionary and ecological immunology • Molecular mechanisms of immune evolution • Regulation mechanisms of immunity (*) • Viruses and host immune system (*) • Molecular Biology of Cancer I (*) • Molecular Biology of Cancer II

Study programme and form of study	Requirements
	<ul style="list-style-type: none"> • Fluorescent microscopy in cell biology • Advances in molecular biology and genetics (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://pokroky.img.cas.cz/ - https://pokroky.img.cas.cz/] (according to the information for the current academic year) <p>(*) enquire about the availability of the course in English</p> <p>Practical courses:</p> <ul style="list-style-type: none"> • Processing and analysis of microscopic image in biomedicine (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopickych-obrazu-v-biomedicine/ - https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopickych-obrazu-v-biomedicine/] (according to the information for the current academic year) • Microscopic methods in biomedicine (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/ - https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/] (according to information for the current academic year) • Transmission electron microscopy in life sciences (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-life-sciences/ - https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-life-sciences/] (according to the information for the current academic year) • MB140C75E Fluorescence spectroscopy in biology <p>Learning goal 2</p> <p>Internships and visits in cooperating laboratories</p> <p>Students conduct part of their work or training at foreign institution for a total length of at least one month or directly participate in other forms of international cooperation, such as participation in an international creative project with results published or presented abroad. The recommended form is an internship (in total for at least three months) with emphasis on advanced methods or new approaches/ models.</p> <p>Presentations of results</p> <p>Students are required to attend the conference of doctoral students, which is summoned every year by the Board. Students actively participate in its organization. During the conference, students present results of their projects and discuss methods and issues of common interest. Both the Board members and the mentors are invited to the conference.</p> <p>Active participation in international conferences according to the focus and possibilities of the mentor's team is also recommended.</p> <p>Ph.D. exam</p> <p>The state doctoral exam is an important control point of the study, in addition to the annual IJ checks. The exam serves to test student's understanding of the research project and his/ her orientation in the research field. The committee assesses depth and breadth of knowledge of developmental and cell biology with emphasis on areas related to the project. The recommended timing of the exam is the second semester of the second year of study or the first semester of the third year, so that the exam can serve as a useful feedback for the student. Postponing the exam after the 3rd year without reason may affect student's grading during the subsequent annual evaluation.</p> <p>PhD Thesis</p> <p>Publication prerequisites: The applicant must be an author/ co-author of at least two papers accepted in peer-reviewed journals indexed in the Web of Science (preferably with IF above the research field median) and should be a first author on at least one publication (shared first authorship should be communicated ex ante with the Board). In exceptional and warranted cases, the Board may decide otherwise; an example of such situation may be one excellent first author publication.</p>

Study programme and form of study	Requirements
	<p>PhD Thesis: The thesis should be written as concise, fair and comprehensive information about the applicant's scientific achievements. It should enable the reviewers and the defense committee to assess whether the candidate has acquired both theoretical knowledge and methodical experience as prerequisite for independent scientific work in the field. The candidate should address the scientific problems and open questions of the project and formulate his/ her independent opinions.</p> <p>The text contains:</p> <p>a) Abstract – It should summarize the project's aims and results for the public; it should not exceed 500 words.</p> <p>b) Introduction – It should be outlined as brief review of current knowledge related to the project. Recommended length is ca 20 pages of standard manuscript formatting.</p> <p>c) Methods, Results – These sections should describe in detail the methods and the results experiments carried out by the applicant, which have not become part of the published paper submitted manuscripts. The published papers/ submitted manuscripts should be included as supplements.</p> <p>d) Discussion – This section gives the author the opportunity to present her/ his independent opinions on the results and their significance. It should reflect the level of knowledge at the d of thesis submission and it should mention relevant literature containing supportive or contradictory results. Minimum length is 10 pages.</p> <p>e) Summary - Summary of the main results. Recommended length is 1 page.</p> <p>f) Accompanying sections - list of abbreviations, list of references, information on data repositories or websites where appropriate, statement describing the contribution of the applicant to the published work, including a detailed statement about his/ her role in the preparation of the publications.</p> <p>g) Publications and submitted manuscripts which contain the results obtained by the student</p> <p>The text in parts a) to e) should be written by the student and must not be contained elsewhere. The text cannot be copied, even in part, from the publications in section g) or other texts. The text can be written in English, Czech or Slovak. Formatting of the text, figures, tab and accompanying data should comply with the rules for manuscript submission of a journal choice, such as the journal where one of the author's papers was published.</p>
<p>Immunology (P0511D030041) combined</p>	<p>The goal of study is to train students at advanced level in immunology. The students should acquire broad knowledge of the research area, master their research topic, become competent in conducting and planning experiments, get trained in scientific writing, and obtain qualifications which would make them competitive candidates for positions in research, teaching, and technologies internationally.</p> <p>Learning goal 1</p> <p>Students must take at least three study obligations (courses) and schedule them within the first 3 years of study. When preparing their proposal of the individual study plan (ISP) for approval by the Subject area board (Board) in the Study Information System of the Charles University (SIS), students should include all three courses in the plan.</p> <p>(A) All students must take the obligatory "Grant application strategy and preparation of scientific publication" course. After the theoretical background is explained in several lectures: the student will prepare a grant application related to the Ph.D. project in English, using the forms and guidelines of the Grant Agency of the Czech Republic.</p> <p>(B) Students choose at least two study obligations from the list below. Students should actively seek the opinion of their mentors about the suitability of courses with respect to their project. The prerequisite for the inclusion of courses is that students have not passed them in previous or concurrent study programs.</p> <p>Theoretical courses</p> <ul style="list-style-type: none"> • Protein dynamics in development and cancer • Innate immunity • Advances in Immunology 1 • Immunology • Immunology - a practical course

Study programme and form of study	Requirements
	<ul style="list-style-type: none"> • Clinical Cases in Immunology • Immunology - a systems biology view • Animal models in immunology • Evolutionary and ecological immunology • Molecular mechanisms of immune evolution • Regulation mechanisms of immunity (*) • Viruses and host immune system (*) • Molecular Biology of Cancer I (*) • Molecular Biology of Cancer II • Fluorescent microscopy in cell biology • Advances in molecular biology and genetics (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://pokroky.img.cas.cz/ - https://pokroky.img.cas.cz/] (according to the information for the current academic year) <p>(*) enquire about the availability of the course in English</p> <p>Practical courses:</p> <ul style="list-style-type: none"> • Processing and analysis of microscopic image in biomedicine (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopickych-obrazu-v-biomedicine/ - https://www.img.cas.cz/2016/04/26119-zpracovani-a-analyza-mikroskopickych-obrazu-v-biomedicine/] (according to the information for the current academic year) • Microscopic methods in biomedicine (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/ - https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/] (according to information for the current academic year) • Transmission electron microscopy in life sciences (Institute of Molecular Genetics of the ASCR, v. v. i.) [https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-life-sciences/ - https://www.img.cas.cz/2015/02/21825-transmission-electron-microscopy-in-life-sciences/] (according to the information for the current academic year) • MB140C75E Fluorescence spectroscopy in biology <p>Learning goal 2</p> <p>Internships and visits in cooperating laboratories</p> <p>Students conduct part of their work or training at foreign institution for a total length of at least one month or directly participate in other forms of international cooperation, such as participation in an international creative project with results published or presented abroad. The recommended form is an internship (in total for at least three months) with emphasis on advanced methods or new approaches/ models.</p> <p>Presentations of results</p> <p>Students are required to attend the conference of doctoral students, which is summoned every year by the Board. Students actively participate in its organization. During the conference, students present results of their projects and discuss methods and issues of common interest. Both the Board members and the mentors are invited to the conference.</p> <p>Active participation in international conferences according to the focus and possibilities of the mentor's team is also recommended.</p> <p>Ph.D. exam</p> <p>The state doctoral exam is an important control point of the study, in addition to the annual IS checks. The exam serves to test student's understanding of the research project and his/ her orientation in the research field. The committee assesses depth and breadth of knowledge of developmental and cell biology with emphasis on areas related to the project. The recommended timing of the exam is the second semester of the second year of study or the first semester of the third year, so that the exam can serve as a useful feedback for the student. Postponing the exam after the 3rd year without reason may affect student's grading during the subsequent annual evaluation.</p>

Study programme and form of study	Requirements
	<p>PhD Thesis</p> <p>Publication prerequisites: The applicant must be an author/ co-author of at least two papers accepted in peer-reviewed journals indexed in the Web of Science (preferably with IF above the research field median) and should be a first author on at least one publication (shared first authorship should be communicated ex ante with the Board). In exceptional and warranted cases, the Board may decide otherwise; an example of such situation may be one excellent first author publication.</p> <p>PhD Thesis: The thesis should be written as concise, fair and comprehensive information about the applicant's scientific achievements. It should enable the reviewers and the defense committee to assess whether the candidate has acquired both theoretical knowledge and methodical experience as prerequisite for independent scientific work in the field. The candidate should address the scientific problems and open questions of the project and formulate his/ her independent opinions.</p> <p>The text contains:</p> <p>a) Abstract – It should summarize the project's aims and results for the public; it should not exceed 500 words.</p> <p>b) Introduction – It should be outlined as brief review of current knowledge related to the project. Recommended length is ca 20 pages of standard manuscript formatting.</p> <p>c) Methods, Results – These sections should describe in detail the methods and the results of experiments carried out by the applicant, which have not become part of the published papers/ submitted manuscripts. The published papers/ submitted manuscripts should be included as supplements.</p> <p>d) Discussion – This section gives the author the opportunity to present her/ his independent opinions on the results and their significance. It should reflect the level of knowledge at the time of thesis submission and it should mention relevant literature containing supportive or contradictory results. Minimum length is 10 pages.</p> <p>e) Summary - Summary of the main results. Recommended length is 1 page.</p> <p>f) Accompanying sections - list of abbreviations, list of references, information on data repositories or websites where appropriate, statement describing the contribution of the applicant to the published work, including a detailed statement about his/ her role in the preparation of the publications.</p> <p>g) Publications and submitted manuscripts which contain the results obtained by the student</p> <p>The text in parts a) to e) should be written by the student and must not be contained elsewhere. The text cannot be copied, even in part, from the publications in section g) or other texts. The text can be written in English, Czech or Slovak. Formatting of the text, figures, tables and accompanying data should comply with the rules for manuscript submission of a journal of choice, such as the journal where one of the author's papers was published.</p>
<p>Inorganic Chemistry (P0531D130040) full-time</p>	<p>When preparing the individual study plan (ISP), the student chooses the courses to take after consulting the supervisor and in relation to the dissertation topic and courses already taken. The courses have to include a language exam (preferably English) with international validity (FCE). The number of exams should not exceed five. The ISP can also include shorter courses in Czechia and abroad.</p> <p>The students inform about their progress at department seminars. At the beginning, they are expected to present their doctoral project. Later, the students present their preliminary results and then their final results. The final presentation is done in English. Teaching makes an inherent part of scientific education (according to instructions of the supervisor). In the same way, internship abroad is taken as a natural part of the studies (according to existing opportunities) as well as presenting own results at conferences. The students also regularly take part in the department's seminars and lectures Quo Vadis Chemie.</p> <p>The student can choose between two forms of dissertation: complete and cumulative. The complete form is a full text including introduction, goals, results and their discussion, summary, complete experimental part and references. The length corresponds to the length of three articles in international journals with IF. At least one publication based on the results of the</p>

Study programme and form of study	Requirements
	<p>dissertation project must be published before the dissertation is submitted for defence (a text accepted for publication with its own DOI is considered as published). The cumulative form is monothematic set of publications. It includes introduction, literature overview, definition of air discussion of results and a summary (but in a shortened version – 30–40 pages). The core o such dissertation must be at least three articles published in international journals with IF according to the Web of Science (also here the articles with its DOI are considered as published). These articles are included in the dissertation.</p> <p>All the publications included in the dissertation must clearly state the candidate's affiliation to the Department of Inorganic Chemistry, Faculty of Science, Charles University. Where there more authors, the candidate has to specify his/her contribution.</p> <p>The subject-area board does not require for a summary to be submitted with the dissertation. Instead, the students have to submit a prolonged abstract electronically (PDF). The length is least 3,000 characters (without spaces, tables or picture captions).</p>
<p>Inorganic Chemistry (P0531D130040) combined</p>	<p>When preparing the individual study plan (ISP), the student chooses the courses to take after consulting the supervisor and in relation to the dissertation topic and courses already taken. The courses have to include a language exam (preferably English) with international validity (FCE). The number of exams should not exceed five. The ISP can also include shorter courses in Czechia and abroad.</p> <p>The students inform about their progress at department seminars. At the beginning, they are expected to present their doctoral project. Later, the students present their preliminary results and then their final results. The final presentation is done in English. Teaching makes an inherent part of scientific education (according to instructions of the supervisor). In the same way, internship abroad is taken as a natural part of the studies (according to existing opportunities) as well as presenting own results at conferences. The students also regularly take part in the department's seminars and lectures Quo Vadis Chemie.</p> <p>The student can choose between two forms of dissertation: complete and cumulative. The complete form is a full text including introduction, goals, results and their discussion, summary, complete experimental part and references. The length corresponds to the length of three articles in international journals with IF. At least one publication based on the results of the dissertation project must be published before the dissertation is submitted for defence (a text accepted for publication with its own DOI is considered as published). The cumulative form is monothematic set of publications. It includes introduction, literature overview, definition of air discussion of results and a summary (but in a shortened version – 30–40 pages). The core o such dissertation must be at least three articles published in international journals with IF according to the Web of Science (also here the articles with its DOI are considered as published). These articles are included in the dissertation.</p> <p>All the publications included in the dissertation must clearly state the candidate's affiliation to the Department of Inorganic Chemistry, Faculty of Science, Charles University. Where there more authors, the candidate has to specify his/her contribution.</p> <p>The subject-area board does not require for a summary to be submitted with the dissertation. Instead, the students have to submit a prolonged abstract electronically (PDF). The length is least 3,000 characters (without spaces, tables or picture captions).</p>
<p>Macromolecular Chemistry (P0531D130042) full-time</p>	<p>Study duties</p> <p>The study obligations of DSP students and their completing are specified in the study plan. A obligatory part of the study plan are at least two exams in professional subjects, which the student chooses in agreement with the supervisor from the offer of DSP and from the offer of other departments of Charles University or other universities in the country and abroad. It is also mandatory to pass a certified English language exam. These obligations must be fulfilled before the student registers for the state doctoral exam.</p> <p>Requirements for creative activity</p> <ul style="list-style-type: none"> Literary research on the topic of the dissertation and preparation of proposals for project solution, which will then be consulted with the supervisor. (1st semester of study)

Study programme and form of study	Requirements
	<ul style="list-style-type: none"> • Presentation of two lectures focused on the achieved results of the dissertation project at the seminar of the department in English (second and fourth year of study). • Presentation of the results of the dissertation project (in English) at at least one professional conference. • Publication (or acceptance for publication confirmed by DOI) of at least two articles related to the topic of the dissertation in peer-reviewed international journals with an impact factor. In one of the publications, the student must be the first author. • Writing a dissertation, either in full or in summary form. The full form is a complete text containing an introduction, goal setting, experimental part, results and discussion, final summary and references. The summary work is based on a monothematic set of publications: forming part of the work, while the work also contains an introduction, literature review, definition of objectives, discussion of results and a general summary, but in abbreviated form (approximately 40 pages). Such a dissertation must be based on at least four publications in peer-reviewed international journals with an impact factor. <p>Requirements for completing foreign internships</p> <p>In accordance with the rules of study programs at Charles University, part of the study obligations in DSP Macromolecular Chemistry is the completion of part of the study at a foreign institution in a total length of at least one month, or another form of student's direct participation in international cooperation (unless there are serious reasons to the contrary).</p> <p>Additional study obligations</p> <p>Participation in one-off lectures thematically related to the studied scope held within the Charles University and other academic institutions.</p>
<p>Macromolecular Chemistry (P0531D130042)</p> <p>combined</p>	<p>Study duties</p> <p>The study obligations of DSP students and their completion are specified in the study plan. A mandatory part of the study plan are at least two exams in professional subjects, which the student chooses in agreement with the supervisor from the offer of DSP and from the offer of other departments of Charles University or other universities in the country and abroad. It is also mandatory to pass a certified English language exam. These obligations must be fulfilled before the student registers for the state doctoral exam.</p> <p>Requirements for creative activity</p> <ul style="list-style-type: none"> • Literary research on the topic of the dissertation and preparation of proposals for project solution, which will then be consulted with the supervisor. (1st semester of study) • Presentation of two lectures focused on the achieved results of the dissertation project at the seminar of the department in English (second and fourth year of study). • Presentation of the results of the dissertation project (in English) at at least one professional conference. • Publication (or acceptance for publication confirmed by DOI) of at least two articles related to the topic of the dissertation in peer-reviewed international journals with an impact factor. In one of the publications, the student must be the first author. • Writing a dissertation, either in full or in summary form. The full form is a complete text containing an introduction, goal setting, experimental part, results and discussion, final summary and references. The summary work is based on a monothematic set of publications: forming part of the work, while the work also contains an introduction, literature review, definition of objectives, discussion of results and a general summary, but in abbreviated form (approximately 40 pages). Such a dissertation must be based on at least four publications in peer-reviewed international journals with an impact factor. <p>Requirements for completing foreign internships</p> <p>In accordance with the rules of study programs at Charles University, part of the study obligations in DSP Macromolecular Chemistry is the completion of part of the study at a foreign institution in a total length of at least one month, or another form of student's direct participation in international cooperation (unless there are serious reasons to the contrary).</p> <p>Additional study obligations</p>

Study programme and form of study	Requirements
	<p>Participation in one-off lectures thematically related to the studied scope held within the Charles University and other academic institutions.</p>
<p>Microbiology (P0511D030030) full-time</p>	<p>Study duties</p> <p>During the 1st and 2nd year of study, the student completes two compulsory subjects:</p> <ol style="list-style-type: none"> 1. Advances in Molecular Biology and Genetics 2. Advances in microbiology <p>The other two subjects are added to the plan depending on the previous education and with regard to the topic of the dissertation. These are courses offered by PřFUK, MFF UK or UK medical faculties.</p> <p>Subjects are a condition for submitting an application for the state doctoral examination. Another condition is either a certified English exam (FCE, CAE, TOEFL) or an exam at ÚJOF UK.</p> <p>By the end of the 3rd year of study at the latest: successful completion of the state doctoral exam.</p> <p>Requirements for scientific activity</p> <ol style="list-style-type: none"> A) Independent original experimental work with publication output, in which the student has a decisive share B) Two presentations at the annual conference of doctoral students in Microbiology during the first 4 years of study C) The minimum publication requirement is the two original scientific papers in impacted journals (WOS). Doctoral student must be the first author of at least one of these papers. <p>Requirements for internships</p> <p>In accordance with the standards of study programs at Charles University, the doctoral student completes an internship abroad at a workplace with related topic of investigation (total length at least 1 month). Further, the student actively participates in foreign scientific conferences and congresses, reporting on his/her results in the form of oral or poster presentations. If the internship cannot be arranged, students participate in international cooperation in a different way.</p> <p>Additional study obligations</p> <p>It is recommended to actively involve the student in the preparation of grant projects of the workplace. At the same time, the student usually prepares his own proposal for a GA UK grant.</p>
<p>Microbiology (P0511D030030) combined</p>	<p>Study duties</p> <p>During the 1st and 2nd year of study, the student completes two compulsory subjects:</p> <ol style="list-style-type: none"> 1. Advances in Molecular Biology and Genetics 2. Advances in microbiology <p>In justified cases, these compulsory subjects may be replaced by other subjects by agreement.</p> <p>The other two subjects are added to the plan depending on the previous education and with regard to the topic of the dissertation. These are courses offered by PřFUK, MFF UK or UK medical faculties.</p> <p>Subjects are a condition for submitting an application for the state doctoral examination. Another condition is either a certified English exam (FCE, CAE, TOEFL) or an exam at ÚJOF UK.</p> <p>By the end of the 3rd year of study at the latest: successful completion of the state doctoral exam.</p>

Study programme and form of study	Requirements
	<p>Requirements for scientific activity</p> <p>A) Independent original experimental work with publication output, in which the student has a decisive share B) Two presentations at the annual conference of doctoral students in Microbiology during the first 4 years of study C) The minimum publication requirement is the two original scientific papers in impacted journals (WOS). Doctoral student must be the first author of at least one of these papers.</p> <p>Requirements for internships</p> <p>In accordance with the standards of study programs at Charles University, the doctoral student completes an internship abroad at a workplace with related topic of investigation (total length at least 1 month). Further, the student actively participates in foreign scientific conferences and congresses, reporting on his/her results in the form of oral or poster presentations. If the internship cannot be arranged, students participate in international cooperation in a different way.</p> <p>Additional study obligations</p> <p>It is recommended to actively involve the student in the preparation of grant projects of the workplace. At the same time, the student usually prepares his own proposal for a GA UK grant.</p>
<p>Modelling of Chemical Properties on Nano- and Biostructures (P0531D130044)</p> <p>full-time</p>	<p>The study requirements for doctoral students: * Pass a certified examination in English (e.g. FCE, TOEFL) before applying for the state doctoral exam. * Pass at least three exams in subjects related to the theme of student's doctoral thesis. The selection must be agreed on with the student's supervisor and it must be approved by the Board of doctoral study program. It is not possible to repeat exams which were already completed during previous (undergraduate) study.</p> <p>Either a standard form of thesis (monograph) or article-based thesis can be submitted.</p> <p>A monograph is a coherent writing based on the work of the doctoral candidate and written by the candidate, it consists of introduction, goals, model/method description, results, discussion/summary and the list of references. The extent of a monograph form is at least 50 pages. To submit a dissertation in a standard form student must have at least two papers in peer-reviewed international journals with IF \geq 2 and student must be the first or corresponding author in at least one of these publications. (Manuscripts accepted and assigned with DOI are already considered as publications.)</p> <p>An article-based form of dissertation consists of introduction, model/method description, results overview and discussion (both in abbreviated form), summary and the list of references. The extent of this form is 30-50 pages and, in addition, relevant publications are part of the dissertation in the form of attachments. To submit the dissertation in article-based form student must have at least four papers in peer-reviewed international journals with IF \geq 2 and student must be the first or corresponding author in at least one of these publications. (Manuscripts accepted and assigned with DOI are already considered as publications.) In addition, these publications must be on related topic and in-line with the theme of thesis.</p> <p>It is obligatory to complete an internship abroad in the length of minimum 3 months or to present the results in English language (by poster or lecture) at least at three international conferences. The internship may be divided into two or three shorter stays (no need for explicit reasons).</p> <p>Students regularly participate in seminars either at the Department of Physical and Macromolecular Chemistry (students carrying out their research there) or at IOCB or IPC partner institutes of AS ČR, depending on where they carry out their research activities. Students must report on the progress of their dissertation project within these seminar series.</p>
<p>Modelling of Chemical Properties on</p>	<p>The study requirements for doctoral students: * Pass a certified examination in English (e.g. FCE, TOEFL) before applying for the state</p>

Study programme and form of study	Requirements
<p>Nano- and Biostructures (P0531D130044) combined</p>	<p>doctoral exam. * Pass at least three exams in subjects related to the theme of student's doctoral thesis. The selection must be agreed on with the student's supervisor and it must be approved by the Board of doctoral study program. It is not possible to repeat exams which were already completed during previous (undergraduate) study.</p> <p>Either a standard form of thesis (monograph) or article-based thesis can be submitted.</p> <p>A monograph is a coherent writing based on the work of the doctoral candidate and written by the candidate, it consists of introduction, goals, model/method description, results, discussion summary and the list of references. The extent of a monograph form is at least 50 pages. To submit a dissertation in a standard form student must have at least two papers in peer-reviewed international journals with IF ≥ 2 and student must be the first or corresponding author in at least one of these publications. (Manuscripts accepted and assigned with DOI are already considered as publications.)</p> <p>An article-based form of dissertation consists of introduction, model/method description, results overview and discussion (both in abbreviated form), summary and the list of references. The extent of this form is 30-50 pages and, in addition, relevant publications are part of the dissertation in the form of attachments. To submit the dissertation in article-based form student must have at least four papers in peer-reviewed international journals with IF ≥ 2 and student must be the first or corresponding author in at least one of these publications. (Manuscripts accepted and assigned with DOI are already considered as publications.) In addition, these publications must be on related topic and in-line with the theme of thesis.</p> <p>It is obligatory to complete an internship abroad in the length of minimum 3 months or to present the results in English language (by poster or lecture) at least at three international conferences. The internship may be divided into two or three shorter stays (no need for explicit reasons).</p> <p>Students regularly participate in seminars either at the Department of Physical and Macromolecular Chemistry (students carrying out their research there) or at IOCB or IPC partner institutes of AS ČR, depending on where they carry out their research activities. Students must refer on the progress of their dissertation project within these seminar series.</p>
<p>Molecular and Cellular Biology, Genetics and Virology (P0511D030040) full-time</p>	<p>Study Duties</p> <p>Doctoral student must complete at least one scientific lecture/course related to the topic of his/her doctoral thesis and selected from the lists of subjects taught by the Faculty of Science the First, the Second or the Third Faculty of Medicine, Charles University (including the lectures/courses organized by the co-operating institutions, e.g., the Czech Academy of Sciences). The selection of this lecture/course depends on the scientific/technical needs of the doctoral student and is made by him/her together with his/her supervisor. The successful completion of this lecture/course is a necessary condition prior to submitting an application for the State Doctoral Examination (SDE).</p> <p>Further study duties can be stipulated by the internal rules of the respective faculty the student is registered in. In case it is explicitly stated in these rules, the successful completion of such study duties can be an additional condition necessary to fulfill before submitting an application for the SDE (e.g., the English language certificate at a certain level).</p> <p>Besides this, doctoral students should actively participate in national and international conferences (including various types of regular conferences for doctoral students organized by the respective faculty / supervising institution; participation in this type of conference can even be an obligatory component of the Individual Study Curriculum in case it is explicitly stated in the internal rules of the respective faculty the student is registered in. The active involvement of the student in the preparation of grant proposals of his/her supervising Laboratory is also strongly recommended.</p> <p>State Doctoral Examination (SDE)</p>

Study programme and form of study	Requirements
	<p>Doctoral students must apply for the SDE during the third year of their study at the latest. In case the first attempt to pass this examination is not successful, the second attempt must be made during the academic year following the first SDE attempt at the latest.</p> <p>The SDE consists of an oral examination focused on student's knowledge on two subjects which are personalized in accordance with the respective topic of the doctoral thesis. These two subjects must be approved by the Study Board prior to the application for the SDE (i.e., the Chair of the Study Board must be contacted and must approve of the subjects). During the SDE, the doctoral students must display advanced and detailed knowledge on the current state of scientific topics directly related to their area of specialisation (this is the first subject for the SDE), including knowledge on various methodical approaches related to their research (including their principles, various advantages and disadvantages) and topics reaching into associated research areas. The doctoral students should also have a good general theoretic background in molecular biology, cellular biology, genetics or virology (students must choose one of these four scientific fields as their second SDE subject), again with the emphasis of the current state of knowledge. During the SDE, it is expected that doctoral students will demonstrate their ability to comprehend the essence of any scientific problem, to place it in a broader context and particularly to propose their own creative solutions.</p> <p>The SDE starts (after the introduction of the doctoral student by the Chair of the Examination Committee) with a brief statement from the student about the current state of his/her doctoral project, its main goals, the methodical approaches used and the most important results already achieved, as well as the current state of his/her publication activity. Student can prepare short ppt or pdf presentation for this; the whole presentation must not take more than 8-10 minutes.</p> <p>Participation in International Cooperation</p> <p>The doctoral students are strongly recommended to complete a research internship abroad during their study (total length at least 1 month). The decision on the inclusion of such internship in the Individual Study Curriculum rests mainly with the supervisor and its realization depends on the options and resources of the supervising laboratory. In case such internship is not possible, the doctoral students must participate in international scientific cooperation by some other way in compliance with the Standards of the Study Programmes of Charles University.</p> <p>Creative Work and Publication Activity</p> <p>The core of the doctoral study lies in the original, high-quality research independently carried out by the doctoral student. This research must result in at least two original scientific publications relevant to the topic of the doctoral thesis and published during the course of the doctoral study. At least one of these publications must be a research paper of an "original research article" type and the doctoral student must be its first author and must significantly participate in its creation. The required publications must be published in peer-reviewed journals indexed in reputable databases acknowledged by the general scientific community (Web of Science, journals with the impact factor, IF). In exceptional and justified cases (e.g., the student is the first author of an exceptionally high-quality publication), the Study Board can permit change of the publication requirements (e.g., one such paper would be sufficient instead of two commonly required). If the publication is not yet published, the students must present record of confirmation of its acceptance by the respective scientific journal, otherwise such publication cannot be counted among the required number. The shared first-authorship can be accepted as the first-authorship only after the agreement of the Chair of the Study Board. In case the second required publication is another type than an "original research article", its acceptance as a required publication output should be also in advance consulted with the Chair of the Study Board. Videopublications are not accepted (if they are not accompanied by full-value scientific text).</p> <p>Further publication requirements (in accordance with the Individual Study Curriculum) can be stipulated by the internal rules of the respective faculty the student is registered in.</p>

Study programme and form of study	Requirements
	<p>The Doctoral Thesis and Its Defence</p> <p>Prior to submission of the doctoral thesis for its defence, all study duties stated in the Individual Study Curriculum must be successfully passed and the same applies for the SDE. In addition, this, the doctoral student must be an author of at least two original scientific publications relevant to the topic of the doctoral thesis and published during the course of the doctoral study (see Creative Work and Publication Activity requirements).</p> <p>The doctoral thesis must be an original work of the doctoral student. It should provide sufficient information necessary for the assessment whether the doctoral student is qualified for the independent research work in his/her respective scientific field. The doctoral student should be able to comprehensively describe and adequately cover the topic of the doctoral thesis, as well as to independently formulate opinions and questions based on the results of his/her doctoral project.</p> <p>Besides the sections required by the university rules and the internal rules of the respective faculty (the title page, the signed declaration of the author, abstracts in Czech and English, and the supporting parts (the content, the reference list, the abbreviations list if appropriate), the doctoral thesis must contain these sections: 1) Introduction and Literary Overview (the summary of the current knowledge on the topic of the doctoral thesis based on the information available in the scientific literature); 2) clearly defined Aims of the Thesis; 3) Experimental Part (description of the original hypotheses and experiments performed in order to test these hypotheses, i.e., the general conception of experiments, the description of the experimental material and methodical approaches, as well as adequately described results documented in tables and/or figures); 4) Discussion; 5) Summary/Conclusions. These sections of the doctoral thesis can be further divided and appropriately named according to the general character of the doctoral project and the internal rules of the respective faculty (some modality in the general structure of the doctoral thesis is possible, e.g., the merging of the Experimental part and Discussion in case of theses from the bioinformatics field, however, this must be consulted in advance with the Chair of the Study Board).</p> <p>The Experimental Part can include (and can be partially replaced by) the original research papers of the doctoral student that are relevant to the topic of the doctoral thesis and were published, accepted for publication or are accepted for review in some IF journal during the course of the doctoral study. However, it is recommended to include only such papers that the student significantly participated in. These papers can be either incorporated directly into the text or can be presented as supplementary section of the doctoral thesis. They should be linked by the original explanatory text written by the student, which should emphasise the related nature of the respective publications in the context of the doctoral project and summarize the main results and conclusions presented in these papers. This text must also contain unambiguous and detailed verbal specification of the contribution of the doctoral student to obtaining the experimental data and the preparation/writing of the respective manuscript(s). The doctoral student is fully responsible for the presentation of publications in such form that complies with the licencing rights of the respective publisher. However, student must be also aware that the eventual incorporation of their publications into his/her doctoral thesis cannot replace either the Introduction and Literary Overview or the Discussion sections (the text in these sections of the doctoral thesis cannot be simply copied or only slightly re-formulated from the respective publications). The Experimental Part should also include all yet unpublished experiments performed by the doctoral student that are relevant to the topic of the doctoral thesis (such experiments and their results should be fully described).</p> <p>The doctoral thesis can be written in Czech, in Slovak or in English (English is recommended).</p> <p>The Board of the Programme does not require a separate „Summary of the Ph.D. Thesis“ if it is directly stipulated by the internal rules of the respective faculty the student is registered in.</p>
Molecular and Cellular Biology, Genetics and Virology	<p>Study Duties</p> <p>Doctoral student must complete at least one scientific lecture/course related to the topic of his/her doctoral thesis and selected from the lists of subjects taught by the Faculty of Science.</p>

Study programme and form of study	Requirements
(P0511D030040) combined	<p>the First, the Second or the Third Faculty of Medicine, Charles University (including the lectures/courses organized by the co-operating institutions, e.g., the Czech Academy of Sciences). The selection of this lecture/course depends on the scientific/technical needs of the doctoral student and is made by him/her together with his/her supervisor. The successful completion of this lecture/course is a necessary condition prior to submitting an application for the State Doctoral Examination (SDE).</p> <p>Further study duties can be stipulated by the internal rules of the respective faculty the student is registered in. In case it is explicitly stated in these rules, the successful completion of such study duties can be an additional condition necessary to fulfill before submitting an application for the SDE (e.g., the English language certificate at a certain level).</p> <p>Besides this, doctoral students should actively participate in national and international conferences (including various types of regular conferences for doctoral students organized by the respective faculty / supervising institution; participation in this type of conference can even be an obligatory component of the Individual Study Curriculum in case it is explicitly stated in the internal rules of the respective faculty the student is registered in. The active involvement of the student in the preparation of grant proposals of his/her supervising Laboratory is also strongly recommended.</p> <p>State Doctoral Examination (SDE)</p> <p>Doctoral students must apply for the SDE during the third year of their study at the latest. In case the first attempt to pass this examination is not successful, the second attempt must be made during the academic year following the first SDE attempt at the latest.</p> <p>The SDE consists of an oral examination focused on student's knowledge on two subjects which are personalized in accordance with the respective topic of the doctoral thesis. These two subjects must be approved by the Study Board prior to the application for the SDE (i.e., the Chair of the Study Board must be contacted and must approve of the subjects). During the SDE, the doctoral students must display advanced and detailed knowledge on the current state of scientific topics directly related to their area of specialisation (this is the first subject for the SDE), including knowledge on various methodical approaches related to their research (including their principles, various advantages and disadvantages) and topics reaching into associated research areas. The doctoral students should also have a good general theoretic background in molecular biology, cellular biology, genetics or virology (students must choose one of these four scientific fields as their second SDE subject), again with the emphasis of the current state of knowledge. During the SDE, it is expected that doctoral students will demonstrate their ability to comprehend the essence of any scientific problem, to place it in a broader context and particularly to propose their own creative solutions.</p> <p>The SDE starts (after the introduction of the doctoral student by the Chair of the Examination Committee) with a brief statement from the student about the current state of his/her doctoral project, its main goals, the methodical approaches used and the most important results already achieved, as well as the current state of his/her publication activity. Student can prepare short ppt or pdf presentation for this; the whole presentation must not take more than 8-10 minutes.</p> <p>Participation in International Cooperation</p> <p>The doctoral students are strongly recommended to complete a research internship abroad during their study (total length at least 1 month). The decision on the inclusion of such internship in the Individual Study Curriculum rests mainly with the supervisor and its realization depends on the options and resources of the supervising laboratory. In case such internship is not possible, the doctoral students must participate in international scientific cooperation by some other way in compliance with the Standards of the Study Programmes of Charles University.</p>

Study programme and form of study	Requirements
	<p>Creative Work and Publication Activity</p> <p>The core of the doctoral study lies in the original, high-quality research independently carried out by the doctoral student. This research must result in at least two original scientific publications relevant to the topic of the doctoral thesis and published during the course of the doctoral study. At least one of these publications must be a research paper of an “original research article” type and the doctoral student must be its first author and must significantly participate in its creation. The required publications must be published in peer-reviewed journals indexed in reputable databases acknowledged by the general scientific community (Web of Science, journals with the impact factor, IF). In exceptional and justified cases (e.g., the student is the first author of an exceptionally high-quality publication), the Study Board can permit change of the publication requirements (e.g., one such paper would be sufficient instead of two commonly required). If the publication is not yet published, the students must present record of confirmation of its acceptance by the respective scientific journal, otherwise such publication cannot be counted among the required number. The shared first-authorship can be accepted as the first-authorship only after the agreement of the Chair of the Study Board. In case the second required publication is another type than an “original research article”, its acceptance as a required publication output should be also in advance consulted with the Chair of the Study Board. Videopublications are not accepted (if they are not accompanied by full-value scientific text).</p> <p>Further publication requirements (in accordance with the Individual Study Curriculum) can be stipulated by the internal rules of the respective faculty the student is registered in.</p> <p>The Doctoral Thesis and Its Defence</p> <p>Prior to submission of the doctoral thesis for its defence, all study duties stated in the Individual Study Curriculum must be successfully passed and the same applies for the SDE. In addition to this, the doctoral student must be an author of at least two original scientific publications relevant to the topic of the doctoral thesis and published during the course of the doctoral study (see Creative Work and Publication Activity requirements).</p> <p>The doctoral thesis must be an original work of the doctoral student. It should provide sufficient information necessary for the assessment whether the doctoral student is qualified for the independent research work in his/her respective scientific field. The doctoral student should be able to comprehensively describe and adequately cover the topic of the doctoral thesis, as well as to independently formulate opinions and questions based on the results of his/her doctoral project.</p> <p>Besides the sections required by the university rules and the internal rules of the respective faculty (the title page, the signed declaration of the author, abstracts in Czech and English, and the supporting parts (the content, the reference list, the abbreviations list if appropriate), the doctoral thesis must contain these sections: 1) Introduction and Literary Overview (the summary of the current knowledge on the topic of the doctoral thesis based on the information available in the scientific literature); 2) clearly defined Aims of the Thesis; 3) Experimental Part (description of the original hypotheses and experiments performed in order to test these hypotheses, i.e., the general conception of experiments, the description of the experimental material and methodical approaches, as well as adequately described results documented in tables and/or figures); 4) Discussion; 5) Summary/Conclusions. These sections of the doctoral thesis can be further divided and appropriately named according to the general character of the doctoral project and the internal rules of the respective faculty (some modality in the general structure of the doctoral thesis is possible, e.g., the merging of the Experimental part and Discussion in case of theses from the bioinformatics field, however, this must be consulted in advance with the Chair of the Study Board).</p> <p>The Experimental Part can include (and can be partially replaced by) the original research papers of the doctoral student that are relevant to the topic of the doctoral thesis and were published, accepted for publication or are accepted for review in some IF journal during the course of the doctoral study. However, it is recommended to include only such papers that th</p>

Study programme and form of study	Requirements
	<p>student significantly participated in. These papers can be either incorporated directly into the text or can be presented as supplementary section of the doctoral thesis. They should be linked by the original explanatory text written by the student, which should emphasise the related nature of the respective publications in the context of the doctoral project and summarize the main results and conclusions presented in these papers. This text must also contain unambiguous and detailed verbal specification of the contribution of the doctoral student to obtaining the experimental data and the preparation/writing of the respective manuscript(s). The doctoral student is fully responsible for the presentation of publications in such form that complies with the licencing rights of the respective publisher. However, student must be also aware that the eventual incorporation of their publications into his/her doctoral thesis cannot replace either the Introduction and Literary Overview or the Discussion sections (the content in these sections of the doctoral thesis cannot be simply copied or only slightly re-formulated from the respective publications). The Experimental Part should also include all yet unpublished experiments performed by the doctoral student that are relevant to the topic of the doctoral thesis (such experiments and their results should be fully described).</p> <p>The doctoral thesis can be written in Czech, in Slovak or in English (English is recommended).</p> <p>The Board of the Programme does not require a separate „Summary of the Ph.D. Thesis“ if it is directly stipulated by the internal rules of the respective faculty the student is registered in.</p>
<p>Organic Chemistry (P0531D130034)</p> <p>full-time</p>	<p>Requirements for individual study plan:</p> <p>Pass a certified examination in English (e.g. FCE, TOEFL) before submitting the application to the state doctoral examination.</p> <p>Pass at least three specialized examinations in subjects thematically related to the dissertation work. The supervisor is consulted to select subjects, which may not be the same subjects already completed in previous levels of study. Systematically work on the dissertation.</p> <p>Regularly attend seminars of the organic chemistry department, where the current doctoral work of all doctoral students is presented and actively, generally once a year, present the progress of his/her own dissertation work. Participation is also expected in the cycle of lectures titled Quo Vadis Chemie.</p> <p>Full-time doctoral students take part in the teaching activities of the faculty, e.g. by leading exercises, seminars, labs, etc.</p> <p>Requirements for publication activity of doctorands:</p> <p>1) At least two articles published or accepted for publication in a professional peer-reviewed journal with IF ≥ 2, or one publication published or accepted for publication in a professional peer-reviewed journal with IF ≥ 4, where the student is the lead author of at least one. If this condition is not met, subject area board will decide by internal vote if the dissertation could be accepted (after reading written explanation of the supervisor).</p> <p>2) Active participation at least once (verbal presentation or poster) at a conference with international participation.</p> <p>3) At the appointed time submit the complete doctoral dissertation (not a set of publications with brief commentary).</p>

Study programme and form of study	Requirements
<p>Organic Chemistry (P0531D130034)</p> <p>combined</p>	<p>Requirements for individual study plan:</p> <p>Pass a certified examination in English (e.g. FCE, TOEFL) before submitting the application the state doctoral examination.</p> <p>Pass at least three specialized examinations in subjects thematically related to the dissertation work. The supervisor is consulted to select subjects, which may not be the same subjects already completed in previous levels of study. Systematically work on the dissertation.</p> <p>Regularly attend seminars of the organic chemistry department, where the current doctoral work of all doctoral students is presented and actively, generally once a year, present the progress of his/her own dissertation work. Participation is also expected in the cycle of lectures titled Quo Vadis Chemie.</p> <p>Full-time doctoral students take part in the teaching activities of the faculty, e.g. by leading exercises, seminars, labs, etc.</p> <p>Requirements for publication activity of doctorands:</p> <p>1) At least two articles published or accepted for publication in a professional peer-reviewed journal with IF &gt;= 2, or one publication published or accepted for publication in a professional peer-reviewed journal with IF &gt;= 4), where the student is the lead author or at least one. If this condition is not met, subject area board will decide by internal vote if the dissertation could be accepted (after reading written explanation of the supervisor).</p> <p>2) Active participation at least once (verbal presentation or poster) at a conference with international participation.</p> <p>3) At the appointed time submit the complete doctoral dissertation (not a set of publications with brief commentary).</p>
<p>Parasitology (P0511D030043)</p> <p>full-time</p>	<p>Within the ISP (Individual Study Plan for Ph.D. students), it is necessary to successfully pass at least four subjects. Of these four subjects, at least three must be completed by exams. The subject "Buněčné a molekulární interakce mezi hostitelem a parazitem" (Cell and Molecular Interaction between the Host and the Parasite) (MB160P31) is obligatory for all Ph.D. students and must be completed by the end of the third year at the latest.</p> <p>For master students graduated in fields other than parasitology, in addition to MB160P31, the following subjects are required: (i) "Základy parazitologie" (Foundations of Parasitology) (MB160P25) including practical courses ("Cvičení ze základů parazitologie" – Introduction to Parasitology: Laboratory Course; MB160C25); the course (MB160P25) may be replaced by Parasitology (MB160P66). It (MB160P25+MB160C25 or MB160P66+MB160C25) must be completed by the end of the second year at the latest. (ii) At least one major specialized lecture with relevant lab (practical course) must be completed by the end of the second year; students can choose from "Biologie parazitických prvoků" (Biology of Parasitic Protists) MB160P37+MB160C30 or "Biologie helmintů" (Biology of Helminths) MB160P33+MB160C26 or "Lékařská entomologie" (Medical Entomology) MB160P26+MB160C26. The State Doctoral Examination must be completed by the end of the third year.</p> <p>Active participation at scientific conferences is a natural aspect of the study program; there is an obligation of active participation and presentation of achieved scientific results at least at one international scientific conference until the end of the second year. The results obtained must be published in journals with a known Impact Factor (IF); by the end of the third year, a</p>

Study programme and form of study	Requirements
	<p>least one scientific manuscript should be sent to the editorial board for review. All the above-mentioned time limits are binding, but in individual cases, that are exceptional and clearly justified, the Ph.D. board may decide otherwise.</p> <p>Students do not have an obligation to participate actively in teaching (e.g., help with practical courses), however, involvement in this activity is desirable. An obligatory part of the study is also a foreign internship, which should in total last at least three months; this obligation does not have a time limit and in justified cases, it may be forgiven by the Ph.D. board. Additional requirements are (i) a written report on the progress and outlook of the dissertation work (abbr 2-3 pages; submitted by 10th of October in the second year of study) and (ii) a public presentation of the results of the dissertation work at the seminar of the Department of Parasitology in the third year study (a comprehensive lecture about 30 minutes followed by a discussion).</p> <p>The core of a Ph.D. study in Parasitology is a research project aimed at original scientific findings published in peer-reviewed journals. The recommended form of the thesis contains : introductory chapter and clearly defined aims and goals. The introductory part should not be merely a brief summary of the content of the attached studies (papers) but should explain a wider context of the topic. The introduction should demonstrate deeper insight of the doctora student, present a critical assessment of the scientific problem and manners of resolving it, a establish the scientific questions and objectives of the submitted work. The thesis must contz a final chapter summarizing the main results of individual publications, their context, and specifying the student's contribution to solving the problem. Before the introductory chapter, 1 one-page summary/abstract must be included in Czech and English. The thesis includes at least two published or accepted scientific works/papers in international journals (with IF). The Ph.D. student must be the first (lead) author of at least one of these published/accepted papr Studies under the peer review or prepared manuscripts may also be included (recommended but are not counted into the mandatory number. All publications included in the thesis must b related to the topic of the dissertation thesis.</p> <p>Prior to submission of the thesis (dissertation) is each student's responsibility to inform in tim about the current number of required hard copies of the thesis and the self-summary (at the secretariat of the Department of Parasitology Faculty of Science).</p>
Parasitology (P0511D030043) combined	<p>Within the ISP (Individual Study Plan for Ph.D. students), it is necessary to successfully pass least four subjects. Of these four subjects, at least three must be completed by exams. The subject "Buněčné a molekulární interakce mezi hostitelem a parazitem" (Cell and Molecular Interaction between the Host and the Parasite) (MB160P31) is obligatory for all Ph.D. studen and must be completed by the end of the third year at the latest.</p> <p>For master students graduated in fields other than parasitology, in addition to MB160P31, the following subjects are required: (i) "Základy parazitologie" (Foundations of Parasitology) (MB160P25) including practical courses ("Cvičení ze základů parazitologie" – Introduction to Parasitology: Laboratory Course; MB160C25); the course (MB160P25) may be replaced by Parasitology (MB160P66). It (MB160P25+MB160C25 or MB160P66+MB160C25) must be completed by the end of the second year at the latest. (ii) At least one major specialized lecture with relevant lab (practical course) must be completed by the end of the second year; students can choose from "Biologie parazitických prvků" (Biology of Parasitic Protists) MB160P37+MB160C30 or "Biologie helmintů" (Biology of Helminths) MB160P33+MB160C26 or "Lékařská entomologie" (Medical Entomology) MB160P26+MB160C26. The State Doctor Examination must be completed by the end of the third year.</p> <p>Active participation at scientific conferences is a natural aspect of the study program; there is an obligation of active participation and presentation of achieved scientific results at least at one international scientific conference until the end of the second year. The results obtained must be published in journals with a known Impact Factor (IF); by the end of the third year, a least one scientific manuscript should be sent to the editorial board for review. All the above-mentioned time limits are binding, but in individual cases, that are exceptional and clearly justified, the Ph.D. board may decide otherwise.</p> <p>Students do not have an obligation to participate actively in teaching (e.g., help with practical courses), however, involvement in this activity is desirable. An obligatory part of the study is also a foreign internship, which should in total last at least three months; this obligation does</p>

Study programme and form of study	Requirements
	<p>not have a time limit and in justified cases, it may be forgiven by the Ph.D. board. Additional requirements are (i) a written report on the progress and outlook of the dissertation work (about 2-3 pages; submitted by 10th of October in the second year of study) and (ii) a public presentation of the results of the dissertation work at the seminar of the Department of Parasitology in the third year study (a comprehensive lecture about 30 minutes followed by a discussion).</p> <p>The core of a Ph.D. study in Parasitology is a research project aimed at original scientific findings published in peer-reviewed journals. The recommended form of the thesis contains : introductory chapter and clearly defined aims and goals. The introductory part should not be merely a brief summary of the content of the attached studies (papers) but should explain a wider context of the topic. The introduction should demonstrate deeper insight of the doctora student, present a critical assessment of the scientific problem and manners of resolving it, a establish the scientific questions and objectives of the submitted work. The thesis must conta a final chapter summarizing the main results of individual publications, their context, and specifying the student's contribution to solving the problem. Before the introductory chapter, t one-page summary/abstract must be included in Czech and English. The thesis includes at least two published or accepted scientific works/papers in international journals (with IF). The Ph.D. student must be the first (lead) author of at least one of these published/accepted paper Studies under the peer review or prepared manuscripts may also be included (recommended but are not counted into the mandatory number. All publications included in the thesis must b related to the topic of the dissertation thesis.</p> <p>Prior to submission of the thesis (dissertation) is each student's responsibility to inform in tim about the current number of required hard copies of the thesis and the self-summary (at the secretariat of the Department of Parasitology Faculty of Science).</p>
<p>Philosophy and History of Science (P0223D030002) full-time</p>	<p>Study requirements</p> <ol style="list-style-type: none"> 1) The study plan is made individually according to the dissertation topic. The courses are chosen above all from those offered by the Department of Philosophy and History of Science Faculty of Science, Charles University, but also from other courses offered by the Faculty of Arts and Philosophy, Faculty of Science, or by other institutions. The student works in a close cooperation with their supervisor according to whom the subject-area board determines the content of the student's individual plan. The main part of the study programme is the doctora project whose topic, schedule and solution are the mainly in hands of the PhD candidate. Th goal is therefore to develop student's independence and creative potential. The supervisor's role is to stimulate these qualities. The doctoral project is subject to approval of the subject-area board. 2) Another requirement is the state final examination. After consulting the supervisor and the head of the subject-area board, the student chooses three sets of questions related to their studies and to the topic of their dissertation. 3) The obvious part of studies is also building contacts abroad, usually through a several mo long stay at an institution abroad. 4) The students are also expected to participate actively in specialized seminars of the department, especially those related to history of science – such participation is expected throughout the studies. The students have to present their progress regularly at these semin. – both in terms of dissertation and publishing activities. 5) Subject-area board's requirements on publishing activities of doctoral students: <ol style="list-style-type: none"> a) Obligatory publications before the submission of dissertation (if the dissertation is a monograph): In general, one publication in a scientific journal or in a thematic book is expect Such publication should by published in time of the submission or it should be accepted for publication. b) Under relevant circumstances, it is possible to submit a dissertation in a form of a set of publications (if the dissertation is of a cumulative form, i.e. monothematic set of publications) At least three publications in relevant scientific journals accompanied by an introductory text the dissertation.

Study programme and form of study	Requirements
	<p>The requirements given must be met by the end of the fourth grade of studies in order to submit the dissertation successfully.</p> <p>Creative activity requirements</p> <p>In general, one publication in a scientific journal or in a thematic book is expected, i.e. a study chapter in a monograph or a dictionary, or another adequate output (in case of a cumulative dissertation at least three such publications). The basic requirement is then the student's continuous work on their doctoral project. The progress is regularly discussed with the supervisor and taken into account in every annual assessment. The progress is usually presented at least once a year and discussed in detail at a seminar. In the third grade the student has to present their progress in front of the meeting of the whole department, the members of the subject-area board included. Another necessary requirement is an active participation and presentation of own work at international conferences. The dissertation may be in a classic form (monograph), but in relevant case a cumulative form is allowed. All journal articles and book chapters included in the set of publications in the dissertation shall be closely related to the topic of the doctoral project. The candidate must be able to defend them all. Other work or publications that do not meet the criteria above can be only included in the appendix.</p> <p>Internship requirements</p> <p>The student must participate at least in one month-long internship abroad (for which there is currently a wide range of options), or to participate in other relevant ways in international cooperation. The Department of Philosophy and History of Science has signed multiple bilateral agreements with the following institutions abroad:</p> <p>Friedrich-Schiller-University of Jena (Faculty of Biology and Pharmacy)</p> <p>University of Tartu (Faculty of Philosophy)</p> <p>University of Leeds (Faculty of Arts)</p> <p>University of Ljubljana (Faculty of Arts)</p> <p>Institute of Philosophy, Zagreb</p> <p>Upon agreement, it is possible to stay also at other institutions abroad, or eventually to sign a new agreement. Another possibility how to fund a stay abroad is the mobility fund of the Charles University, or a scholarship based on intergovernmental agreements. There are new opportunities on this topic also on the faculty website.</p> <p>Other requirements</p> <p>The student should actively attempt to participate in conferences abroad. The department offers a possibility of pedagogical experience by leading own seminar or by teaching with the supervisor or other colleagues. The participation in common grant projects is welcome and recommended (for instance GAUK). Potential other requirements depend on the topic of the doctoral project and they are specified in the individual study plan.</p>
<p>Philosophy and History of Science (P0223D030002) combined</p>	<p>Study requirements</p> <p>1) The study plan is made individually according to the dissertation topic. The courses are chosen above all from those offered by the Department of Philosophy and History of Science Faculty of Science, Charles University, but also from other courses offered by the Faculty of Arts and Philosophy, Faculty of Science, or by other institutions. The student works in a close cooperation with their supervisor according to whom the subject-area board determines the</p>

Study programme and form of study	Requirements
	<p>content of the student's individual plan. The main part of the study programme is the doctora project whose topic, schedule and solution are the mainly in hands of the PhD candidate. Th goal is therefore to develop student's independence and creative potential. The supervisor's role is to stimulate these qualities. The doctoral project is subject to approval of the subject-area board.</p> <p>2) Another requirement is the state final examination. After consulting the supervisor and the head of the subject-area board, the student chooses three sets of questions related to their studies and to the topic of their dissertation.</p> <p>3) The obvious part of studies is also building contacts abroad, usually through a several mo long stay at an institution abroad.</p> <p>4) The students are also expected to participate actively in specialized seminars of the department, especially those related to history of science – such participation is expected throughout the studies. The students have to present their progress regularly at these semin: – both in terms of dissertation and publishing activities.</p> <p>5) Subject-area board's requirements on publishing activities of doctoral students:</p> <p>a) Obligatory publications before the submission of dissertation (if the dissertation is a monograph): In general, one publication in a scientific journal or in a thematic book is expect Such publication should by published in time of the submission or it should be accepted for publication.</p> <p>b) Under relevant circumstances, it is possible to submit a dissertation in a form of a set of publications (if the dissertation is of a cumulative form, i.e. monothematic set of publications) least three publications in relevant scientific journals accompanied by an introductory text in i dissertation.</p> <p>The requirements given must be met by the end of the fourth grade of studies in order to sub the dissertation successfully.</p> <p>Creative activity requirements</p> <p>In general, one publication in a scientific journal or in a thematic book is expected, i.e. a stud chapter in a monograph or a dictionary, or another adequate output (in case of a cumulative dissertation at least three such publications). The basic requirement is then the student's continuous work on their doctoral project. The progress is regularly discussed with the supervisor and taken into account in every annual assessment. The progress is usually presented at least once a year and discussed in detail at a seminar. In the third grade the lat the student has to present their progress in front of the meeting of the whole department, the members of the subject-area board included. Another necessary requirement is an active participation and presentation of own work at international conferences. The dissertation may be in a classic form (monograph), but in relevant case a cumulative form is allowed. All journ articles and book chapters included in the set of publications in the dissertation shall be close related to the topic of the doctoral project. The candidate must be able to defend them all. Ot work or publications that do not meet the criteria above can be only included in the appendix</p> <p>Internship requirements</p> <p>The student must participate at least in one month-long internship abroad (for which there is currently a wide range of options), or to participate in other relevant ways in international cooperation. The Department of Philosophy and History of Science has signed multiple bilate agreements with the following institutions abroad:</p> <p>Friedrich-Schiller-University of Jena (Faculty of Biology and Pharmacy)</p>

Study programme and form of study	Requirements
	<p>University of Tartu (Faculty of Philosophy)</p> <p>University of Leeds (Faculty of Arts)</p> <p>University of Ljubjana (Faculty of Arts)</p> <p>Institute of Philosophy, Zagreb</p> <p>Upon agreement, it is possible to stay also at other institutions abroad, or eventually to sign a new agreement. Another possibility how to fund a stay abroad is the mobility fund of the Charles University, or a scholarship based on intergovernmental agreements. There are new on this topic also on the faculty website.</p> <p>Other requirements</p> <p>The student should actively attempt to participate in conferences abroad. The department offers a possibility of pedagogical experience by leading own seminar or by teaching with the supervisor or other colleagues. The participation in common grant projects is welcome and recommended (for instance GAUK). Potential other requirements depend on the topic of the doctoral project and they are specified in the individual study plan.</p>
<p>Physical Geography and Geoecology (P0532D330021) full-time</p>	<p>Study requirements</p> <p>The study plan contains obligatory courses Colloquium of PhD students (zápočet) and General and Regional Physical Geography (exam). The exam in General and Regional Physical Geography is in a form of a written review (15 to 20 pages). The review describes the topic of the dissertation in the context of physical geography, which relevant concepts it develops (it serves as an introduction to the dissertation). The topic is assigned according to the specialization studied. The examiner is (if possible) an associate professor and a person different from the supervisor. The study plan also includes two or three courses (with exams) at least one should be taken outside the Faculty of Science. All the courses are taken in the first two years of the studies. The state doctoral exam is taken between the end of the second year and the end of the third year.</p> <p>Study requirements and the progress is specified in the study plan.</p> <p>Creative activity requirements</p> <p>The dissertation contains own results and results that are published or accepted for publication. If the dissertation is a monograph, at least one article must be published in a foreign journal with IF and the other two in the database WoS/SCOPUS. The PhD candidate must be the first author of at least two of these articles.</p> <p>If the dissertation is a monothematic set of publications, at least one of these publications must be an article in a foreign journal with IF. The total number of original scientific texts is four (articles in scientific journals, chapters in monographs). The PhD candidate must be the first author of at least two of these texts.</p> <p>If a publication has not been published yet, the PhD candidate has to submit a confirmation of acceptance for publication. Two of the four publications can be under review. It is recommended that at least one of the articles where the PhD is the first author is published (or accepted for publication) in a journal with IF above the median of the field of physical geography.</p> <p>The result of the defence is determined by a committee according to the quality of the dissertation and the opponents' reports.</p>

Study programme and form of study	Requirements
	<p>Internship</p> <p>The student has to go abroad for a study or research internship. The international mobility is integral part of the study plan, the length (at least one month) and the exact form are determined according to the dissertation topic.</p> <p>Other study requirements</p> <p>It is recommended for the students to take part in teaching activities in collaboration with their supervisor, the head of the department and the guarantors of the study programmes. The students can also be supervisors and opponents of bachelor theses.</p> <p>State doctoral exam</p> <p>The state doctoral exam consists of the defence of the main theses of the dissertation, the obligatory subject of general and regional physical geography and a specialized exam related to the dissertation topic.</p> <p>1. Dissertation theses</p> <p>These theses serve as a material for a scientific discussion on the progress of the dissertation writing.</p> <p>1) Introduction – main research questions and the aims related to them, definition of research problems dealt with in the dissertation, theoretical concepts</p> <p>2) Literature overview</p> <p>3) Methods used</p> <p>4) Progress and preliminary results</p> <p>5) References</p> <p>6) Publications the student has already published on the topic (only scientific articles)</p> <p>The theses are presented in 15 minutes. The maximum length is 2,500 words. The theses are sent to the committee at least two weeks in advance.</p> <p>1) General and regional physical geography – examples of topics for the state doctoral exam</p> <p>(The topics are cross-sectional, the aim is to verify the overall knowledge.)</p> <p>Different development of reliefs in different climatic zones</p> <p>Formation and development of the glacial zone</p> <p>Influence of the planetary atmospheric circulation and relief on river regimes</p> <p>Water supplies on Earth in relation to the environmental changes</p> <p>Main factors influencing the geodiversity and biodiversity</p> <p>2) Specialized exam – examples of the topics for the state doctoral exam</p>

Study programme and form of study	Requirements
	<p>(This exam verifies knowledge in the field of the dissertation.)</p> <p>Modelling selected processes in physical geography</p> <p>Influence of glacial processes on relief development</p> <p>Extreme river regimes</p> <p>Drought, its characteristics and causes</p> <p>Impact landscape fragmentation on biodiversity, organism mobility and substance flows</p>
<p>Physical Geography and Geoecology (P0532D330021) combined</p>	<p>Study requirements</p> <p>The study plan contains obligatory courses Colloquium of PhD students (zápočet) and General and Regional Physical Geography (exam). The exam in General and Regional Physical Geography is in a form of a written review (15 to 20 pages). The review describes the topic of the dissertation in the context of physical geography, which relevant concepts it develops (it serves as an introduction to the dissertation). The topic is assigned according to the specialization studied. The examiner is (if possible) an associate professor and a person different from the supervisor. The study plan also includes two or three courses (with exams) least one should be taken outside the Faculty of Science. All the courses are taken in the first two years of the studies. The state doctoral exam is taken between the end of the second year and the end of the third year.</p> <p>Study requirements and the progress is specified in the study plan.</p> <p>Creative activity requirements</p> <p>The dissertation contains own results and results that are published or accepted for publication. If the dissertation is a monograph, at least one article must be published in a foreign journal with IF and the other two in the database WoS/SCOPUS. The PhD candidate must be the first author of at least two of these articles.</p> <p>If the dissertation is a monothematic set of publications, at least one of these publications must be an article in a foreign journal with IF. The total number of original scientific texts is four (articles in scientific journals, chapters in monographs). The PhD candidate must be the first author of at least two of these texts.</p> <p>If a publication has not been published yet, the PhD candidate has to submit a confirmation acceptance for publication. Two of the four publications can be under review. It is recommended that at least one of the articles where the PhD is the first author is published (accepted for publication) in a journal with IF above the median of the field of physical geography.</p> <p>The result of the defence is determined by a committee according to the quality of the dissertation and the opponents' reports.</p> <p>Internship</p> <p>The student has to go abroad for a study or research internship. The international mobility is an integral part of the study plan, the length (at least one month) and the exact form are determined according to the dissertation topic.</p> <p>Other study requirements</p> <p>It is recommended for the students to take part in teaching activities in collaboration with the supervisor, the head of the department and the guarantors of the study programmes. The students can also be supervisors and opponents of bachelor theses.</p> <p>State doctoral exam</p>

Study programme and form of study	Requirements
	<p>The state doctoral exam consists of the defence of the main theses of the dissertation, the obligatory subject of general and regional physical geography and a specialized exam related to the dissertation topic.</p> <p>1. Dissertation theses</p> <p>These theses serve as a material for a scientific discussion on the progress of the dissertation writing.</p> <p>1) Introduction – main research questions and the aims related to them, definition of research problems dealt with in the dissertation, theoretical concepts 2) Literature overview 3) Methods used 4) Progress and preliminary results 5) References 6) Publications the student has already published on the topic (only scientific articles)</p> <p>The theses are presented in 15 minutes. The maximum length is 2,500 words. The theses are sent to the committee at least two weeks in advance.</p> <p>1) General and regional physical geography – examples of topics for the state doctoral exam (The topics are cross-sectional, the aim is to verify the overall knowledge.)</p> <p>Different development of reliefs in different climatic zones</p> <p>Formation and development of the glacial zone</p> <p>Influence of the planetary atmospheric circulation and relief on river regimes</p> <p>Water supplies on Earth in relation to the environmental changes</p> <p>Main factors influencing the geodiversity and biodiversity</p> <p>2) Specialized exam – examples of the topics for the state doctoral exam (This exam verifies knowledge in the field of the dissertation.)</p> <p>Modelling selected processes in physical geography</p> <p>Influence of glacial processes on relief development</p> <p>Extreme river regimes</p> <p>Drought, its characteristics and causes</p> <p>Impact landscape fragmentation on biodiversity, organism mobility and substance flows</p> <p>Note: The combined form of study does not necessarily require stay abroad neither teaching but these activities are welcome.</p>
Physical Chemistry (P0531D130037) full-time	Study requirements and their completing is specified in the individual study plan. Requirements 1) In the first and second year, students must complete at least two courses ending with an exam related to the topic of the dissertation. The courses are chosen after discussion with the supervisor and are subject to the approval of the subject-area board. 2) Passing a certified English exam (e.g. FCE, TOEFL) before applying for the state doctora

Study programme and form of study	Requirements
	<p>exam.</p> <p>3) During the third or the fourth year, the students have to pass the state doctoral exam in physical chemistry.</p> <p>4) Publishing at least 2 articles in international peer-reviewed journals with IF on a topic related to the topic of dissertation. The candidate must be the first author of at least one of these articles.</p> <p>5) During the first to the fourth year, the students are expected to participate regularly at seminars where they should also present their results (twice during the whole course of study, i.e. for example in the second and in the fourth year).</p> <p>Publications and dissertation</p> <p>The candidates have to have at least two articles published (or accepted for publication) in peer-reviewed international journals with IF. The articles must be related to the topic of dissertation. The candidate must be the first author of at least one of these articles (main contributor).</p> <p>Dissertation can be submitted either in a standard form (monograph) or in a shortened form (article-based). For the standard form, it is necessary to have at least two publications. The standard form is a complete text with an introduction, aims, methods, results, discussion, summary and references. The minimum length of the standard form is 50 pages. The shorter form contains a monothematic set of at least four published texts that meet the same criteria for the standard form. The candidate has to be the first author of at least one of the articles. The shortened form of dissertation contains at least an introduction, methods, results and discussion of the results obtained, but in a shorter text of 30 to 50 pages. The publications are then appendix of such dissertation.</p> <p>Other requirements</p> <ol style="list-style-type: none"> 1. Active participation at an international conference that includes presentation of results. 2. Regular active participation at seminars of the department (Department of Physical and Macromolecular Chemistry, Faculty of Science, Charles University, or institutes of the Academy of Science where the student works on the dissertation) with presentation of own progress (at least twice during the course of studies). <p>State doctoral exams</p> <p>The exam is typically passed during the fourth or fifth semester. It is done in front of a committee. The candidate is examined in the field of physical chemistry and its interdisciplinary relations and current research trends.</p>
Physical Chemistry (P0531D130037) combined	<p>Study requirements and their completing is specified in the individual study plan.</p> <p>Requirements</p> <ol style="list-style-type: none"> 1) In the first and second year, students must complete at least two courses ending with an exam related to the topic of the dissertation. The courses are chosen after discussion with the supervisor and are subject to the approval of the subject-area board. 2) Passing a certified English exam (e.g. FCE, TOEFL) before applying for the state doctoral exam. 3) During the third or the fourth year, the students have to pass the state doctoral exam in physical chemistry. 4) Publishing at least 2 articles in international peer-reviewed journals with IF on a topic related to the topic of dissertation. The candidate must be the first author of at least one of these articles. 5) During the first to the fourth year, the students are expected to participate regularly at seminars where they should also present their results (twice during the whole course of study, i.e. for example in the second and in the fourth year). <p>Publications and dissertation</p> <p>The candidates have to have at least two articles published (or accepted for publication) in peer-reviewed international journals with IF. The articles must be related to the topic of</p>

Study programme and form of study	Requirements
	<p>dissertation. The candidate must be the first author of at least one of these articles (main contributor).</p> <p>Dissertation can be submitted either in a standard form (monograph) or in a shortened form (article-based). For the standard form, it is necessary to have at least two publications. The standard form is a complete text with an introduction, aims, methods, results, discussion, summary and references. The minimum length of the standard form is 50 pages. The shorter form contains a monothematic set of at least four published texts that meet the same criteria for the standard form. The candidate has to be the first author of at least one of the articles. The shortened form of dissertation contains at least an introduction, methods, results and discussion of the results obtained, but in a shorter text of 30 to 50 pages. The publications are then appendix of such dissertation.</p> <p>Other requirements</p> <ol style="list-style-type: none"> 1. Active participation at an international conference that includes presentation of results. 2. Regular active participation at seminars of the department (Department of Physical and Macromolecular Chemistry, Faculty of Science, Charles University, or institutes of the Academy of Science where the student works on the dissertation) with presentation of own progress (at least twice during the course of studies). <p>State doctoral exams</p> <p>The exam is typically passed during the fourth or fifth semester. It is done in front of a committee. The candidate is examined in the field of physical chemistry and its interdisciplinary relations and current research trends.</p>
<p>Regional and Political Geography (P0532D330028)</p> <p>full-time</p>	<p>1. Required courses</p> <p>In the first and second year, the students have to take the course MPGS0118 Obecné kolokvium/General colloquium (RPG) and either MPGS0098 Teorie regionální geografie pro PGS/Theory of Regional Geography for PhD students, or MPGS0099 Teorie politické geografie pro PGS/Theory of Political Geography for PhD students.</p> <p>Other courses are selected after discussion with the supervisor or they can be required by the Subject-Area Board. These are taken before registering for the state doctoral examination. Before applying for the state doctoral exam (MSZXZ003), the student has to write the Theoretical-methodological considerations (RPG, MPGS0123); the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is handed in electronically together with the annual assessment after the first year of study.</p> <p>The state doctoral exam MSZXZ003 Regional and Political Geography has to be passed by the end of the third semester.</p> <p>2. State doctoral exam and dissertation defence</p> <p>For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations.</p> <p>In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, without ppt presentation) This is assessed by an external opponent (who is not a member of student's research team nor the student's department) who asks follow-up questions. The student answers the questions (without knowing them in advance). This is followed by a discussion.</p> <p>In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories and methodological approaches. Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence has to prove the student's skills to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP and those required by the Subject-Area Board fulfilled. The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p>

Study programme and form of study	Requirements
	<p>The opponents are selected from the outside of the student's research team, usually from a different department, sometimes from abroad.</p> <p>3. Study stay abroad The students have to go abroad to study or to conduct research abroad related to the dissertation topic. The minimum length of the stay abroad is one month. The students have to register their stay abroad in SIS in the module "Internships".</p> <p>4. Publications Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with student's affiliation to the department are accepted. In case of collective work, the student has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least two have to be published in journals included in the databases of Social Sciences Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution in at least one of them. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The first of the articles must be ready to be sent to the journal board by the end of the second year of study. The last (fourth) of the articles included (except the article published in one of the journals above where the student's contribution is at least 50%) can be only "accepted for the review process" (but not only sent to a board or an editor) at the moment of the defence (it is necessary to provide a confirmation). The publications must form a logically organized thematic set whose content is related to the dissertation. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph (150 to 300 pages): The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in journals included in the databases of Social Science Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution. The first of the articles should be ready to be sent to the journal board by the end of the second year of study. The second article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The publications must be related to the topic of the dissertation.</p> <p>5. Teaching activities Not required. The teaching activities are coordinated by the supervisor and the head of the department. If the classes are more frequent than one-time classes, these are financially reimbursed.</p> <p>6. The presence at the department The students in the full-time study programme and in the standard period of study are present at the department. The students take part in research activities of the department, eventually also in organizing entrance exams, PR activities, workshops, etc. The students attend the dissertation defences in their study programme and they attend lectures of visiting scholars.</p> <p>7. Other specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended) The student's progress is regularly assessed via ISP, usually twice a year. The student has to present their dissertation project actively at conferences (at least one local and one international).</p>

Study programme and form of study	Requirements
	<p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p> <p>Approved by the subject-area board on 15. 8. 2023.</p>
<p>Regional and Political Geography (P0532D330028) combined</p>	<p>1. Required courses A doctoral student must complete all prescribed courses according to the ISP by the end of the 3rd year of study, including the state doctoral examination. The courses are MPGS0118 Obecné kolokvium/General colloquium (RPG) and either MPGS0098 Teorie regionální geografie pro PGS/Theory of Regional Geography for PhD students, or MPGS0099 Teorie politické geografie pro PGS/Theory of Political Geography for PhD students. Other two courses are selected according to the dissertation topic and after discussion with the supervisor. The courses need to be completed successfully before the registration for the doctoral examination. One of the courses is usually taken outside the Faculty of Science. At least two courses need to be taken and successfully finished in the first year, the other two in the second year. Before applying for the state doctoral exam (MSZXZ003), the student has to write the Theoretical-methodological considerations (RPG, MPGS0123); the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is handed in electronically at the end of the second year together with the annual assessment.</p> <p>2. State doctoral exam and dissertation defence For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations. In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, without ppt presentation) This is assessed by an external opponent (who is not a member of student's research team nor the student's department) who asks follow-up questions. The student answers the questions (without knowing them in advance). This is followed by a discussion. In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories and methodological approaches. Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations. The dissertation defence has to prove the student's skills to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP and those required by the Subject-Area Board fulfilled. The student submits the dissertation in such time that the defence can be done before the standard period of study is over. The opponents are selected from the outside of the student's research team, usually from a different department, sometimes from abroad.</p> <p>3. Study stay abroad During the standard period of study, the students are advised to go abroad to study, to conduct research abroad or work on projects of international cooperation (for the topic related to their dissertation). The students have to register their stay abroad in SIS in the module "Internship abroad".</p> <p>4. Publications Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with student's affiliation to the department are accepted. In case of collective work, the student has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least two have to be published in journals included in the databases of Social Sciences Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution in at least one of them. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publisher.</p>

Study programme and form of study	Requirements
	<p>publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The first of the articles must be ready to be sent to the journal board by the end of the second year of study. The last (fourth) of the articles included (except the article published in one of the journals above where the student's contribution is at least 50%) can be only "accepted for the review process" (but not only sent to a board or an editor) at the moment of the defence (it is necessary to provide a confirmation).</p> <p>The publications must form a logically organized thematic set whose content is related to the dissertation. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph (150 to 300 pages): The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in journals included in the databases of Social Science Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution. The first of the articles should be ready to be sent to the journal board by the end of the second year of study. The second article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The publications must be related to the topic of the dissertation.</p> <p>5. Teaching activities Not required. The teaching activities are coordinated by the supervisor and the head of the department. If the classes are more frequent than one-time classes, these are financially reimbursed.</p> <p>6. The presence at the department, in hours per week Is not required.</p> <p>7. Other specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended) The student's progress is regularly assessed via ISP, usually twice a year. The student has to present their dissertation project actively at conferences (at least one local and one international).</p> <p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p> <p>Approved by the subject-area board on 15. 8. 2023.</p>
<p>Social Geography and Regional Development (P0532D330030) full-time</p>	<p>1. Required courses In the first year, the students have to take the course MPGS0119 Obecné kolokvium/General colloquium (SGRR) and either MPGS0088 Teorie sociální geografie pro PGS/Theory of Social Geography for PhD students, or MPGS0089 Teorie regionálního rozvoje pro PGS/Theory of regional development for PhD students. Other courses are selected after discussion with the supervisor or they can be required by the Subject-Area Board. They are taken before registering for the state doctoral examination. Before applying for the state doctoral exam (MSZXZ005), the student has to write the Theoretical-methodological considerations (SGR, MPGS0121); the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is handed in electronically at the end of the first year together with the annual assessment. The application for the state doctoral examination is submitted at the Department of Student Affairs. The state doctoral exam MSZXZ005 Social Geography and Regional Development has to be passed by the end of the third semester.</p> <p>2. State doctoral exam and dissertation defence For registration for the state doctoral exam, the students need to fulfil their duties (courses) in</p>

Study programme and form of study	Requirements
	<p>the ISP and they have to submit the electronic version of the theoretical-methodological considerations.</p> <p>In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, without ppt presentation). This is assessed by an external opponent (who is not a member of student's research team nor the student's department) who asks follow-up questions. The student answers the questions (without knowing them in advance). This is followed by a discussion. In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories and methodological approaches. Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence has to prove the student's skills to defend own results in a wider context and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP or those required by the Subject Area Board fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over. The opponents are selected from outside of the student's research team, usually from a different department and often from abroad.</p> <p>3. Study stay abroad During the standard period of study, the students have to go abroad to study or to conduct research abroad for at least for one month (for the topic related to their dissertation). The students have to register their stay abroad in SIS in the module "Internships".</p> <p>4. Publications Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with student's affiliation to their department are accepted. In case of collective work, the students have to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least two have to be published in journals included in the databases of Social Sciences Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution in at least one of them. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The first of the articles must be ready to be sent to the journal board by the end of the second year of study. The last (fourth) of the articles included (except the article published in one of the journals above where the student's contribution is at least 50%) can be only "accepted for the review process" (but not only sent to a board or an editor) at the moment of the defence (it is necessary to provide a confirmation). The publications must form a logically organized thematic set whose content is related to the dissertation. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph (150 to 300 pages): The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in journals included in the databases of Social Science Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution. The first of the articles should be ready to be sent to the journal board by the end of the second year of study. The second article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley).</p>

Study programme and form of study	Requirements
	<p>Wiley). The publications must be related to the topic of the dissertation.</p> <p>5. Teaching activities Not required. The teaching activities are coordinated by the supervisor and the head of the department. If the classes are more frequent than one-time classes, these are financially reimbursed.</p> <p>6. The presence at the department The students in the full-time study programme and in the standard period of study are present at the department. The students take part in research activities of the department, and eventually also in organizing entrance exams, PR activities, workshops, etc. The students attend the dissertation defences in their study programme and they attend lectures of visiting scholars.</p> <p>7. Other specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended) The student's progress is regularly assessed via ISP, usually twice a year. The student has to present their dissertation project actively at conferences (at least one local and one international).</p> <p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p> <p>Approved by the subject-area board on 15. 8. 2023.</p>
<p>Social Geography and Regional Development (P0532D330030) combined</p>	<p>1. Required courses A doctoral student must complete all prescribed courses according to the ISP by the end of the 3rd year of study, including the state doctoral examination. The courses are MPGS0119 Obecné kolokvium/General colloquium (SGRR) and either MPGS0088 Teorie sociální geografie pro PGS/Theory of Social Geography for PhD students, or MPGS0089 Teorie regionálního rozvoje pro PGS/Theory of regional development for PhD students. Other courses are selected after discussion with the supervisor or they can be required by the Subject-Area Board. These courses must be completed successfully before registering for the doctoral exam. Before applying for the state doctoral exam (MSZXZ005), the student has to write the Theoretical-methodological considerations (SGR, MPGS0121); the design of the considerations is discussed and approved by the supervisor. The text of the theoretical-methodological considerations is handed in electronically at the end of the second year together with the annual assessment. The application for the state doctoral examination is submitted at the Department of Student Affairs.</p> <p>2. State doctoral exam and dissertation defence For registration for the state doctoral exam, the students need to fulfil their duties (courses) in the ISP and they have to submit the electronic version of the theoretical-methodological considerations. In the first part of the state doctoral exam, the students present their specialization, research topic, theoretical concepts and progress in writing dissertation (max. 15 minutes, without ppt presentation). This is assessed by an external opponent (who is not a member of student's research team nor the student's department) who asks follow-up questions. The student answers the questions (without knowing them in advance). This is followed by a discussion. In the second part of the state doctoral exam, the committee, taking into account student's specialization, verifies the student's ability to relate a research problem to general theories and methodological approaches. Apart from knowledge, the exam is aimed at verifying the following skills: critical thinking, explaining a problem, differentiate meanings, argue, put a problem in a wider context, differentiate between general and specific issues, present relevant empirical examples, make generalizations.</p> <p>The dissertation defence has to prove the student's skills to defend own results in a wider forum and the ability to discuss scientific problems. To apply for a defence, the students have to pass the state doctoral exam and to have all the duties in the ISP or those required by the Subject-Area Board fulfilled (stay abroad, publications, etc.). The student submits the dissertation in such time that the defence can be done before the standard period of study is over.</p>

Study programme and form of study	Requirements
	<p>The opponents are selected from outside of the student's research team, usually from a different department and often from abroad.</p> <p>3. Study stay abroad During the standard period of study, the students are advised to go abroad to study, to conduct research abroad or work on projects of international cooperation (for the topic related to their dissertation). The students have to register their stay abroad in SIS in the module "Internship"</p> <p>4. Publications Dissertation can consist of several scientific articles or it can be a scientific monograph. Both forms require publications, as specified below. Only publications with student's affiliation to the department are accepted. In case of collective work, the student has to specify own contribution (included in the dissertation). If the text has not been published yet, the student has to submit a confirmation of acceptance for publication.</p> <p>Dissertation as a set of publications: The student has to publish at least four scientific articles in peer-reviewed scientific journals. At least two have to be published in journals included in the databases of Social Sciences Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution in at least one of them. The set of publications can include a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The first of the articles must be ready to be sent to the journal board by the end of the second year of study. The last (fourth) of the articles included (except the article published in one of the journals above where the student's contribution is at least 50%) can be only "accepted for the review process" (but not only sent to a board or an editor) at the moment of the defence (it is necessary to provide a confirmation). The publications must form a logically organized thematic set whose content is related to the dissertation. The set of articles in the dissertation is accompanied by an introduction and a conclusion. The articles are provided in the appendix. The introductory chapter must be a substantial text that captures the core of the research activities of the student. In the conclusion, the student has to discuss the key conclusions and possibilities of further research.</p> <p>Dissertation as a scientific monograph (150 to 300 pages): The student has to publish at least two scientific articles in peer-reviewed scientific journals. At least one of them has to be published in journals included in the databases of Social Science Citation Index (SSCI) or Science Citation Index Expanded (SCIE) at the Web of Science (WoS) – to control what journals are included, you can see this website: https://mjl.clarivate.com/home. The student has to be the first author with at least 50% contribution. The first of the articles should be ready to be sent to the journal board by the end of the second year of study. The second article can be replaced by a chapter in a peer-reviewed book published by a prestigious publishing house in Czechia or abroad (e.g., Karolinum, Academia, SLON, Springer, Wiley). The publications must be related to the topic of the dissertation.</p> <p>5. Teaching activities Not required. The teaching activities are coordinated by the supervisor and the head of the department. If the classes are more frequent than one-time classes, these are financially reimbursed.</p> <p>6. The presence at the department, in hours per week Is not required.</p> <p>7. Other specific requirements for the given study programme (for instance requirements by the subject-area board on minimum number of conferences attended) The student's progress is regularly assessed via ISP, usually twice a year. The student has to present their dissertation project actively at conferences (at least one local and one international).</p> <p>The requirements are in force from August 15, 2023, and it can be applied also to students who started their studies before the academic year 2023/2024.</p>

Study programme and form of study	Requirements
	Approved by the subject-area board on 15. 8. 2023.
<p>Theoretical and Evolutionary Biology (P0511D030038)</p> <p>full-time</p>	<p>Study requirements</p> <p>1) The individual study plan is determined by the topic of the dissertation. The courses are selected from those offered by the Department of Philosophy and History of Science, Faculty Science, Charles University, and other courses offered at the Faculty of Science, Faculty of Mathematics and Physics and Faculty of Arts and Philosophy. The student works in a close cooperation with their supervisor according to whom the subject-area board determines the content of the student's individual plan. The main part of the study programme is the doctora project whose topic, schedule and solution are the mainly in hands of the PhD candidate. Th goal is therefore to develop student's independence and creative potential. The supervisor's role is to stimulate these qualities. The doctoral project is subject to approval of the subject-area board.</p> <p>2) Another requirement is the state final examination. After consulting the supervisor and the head of the subject-area board, the student chooses three sets of questions related to their studies and to the topic of their dissertation.</p> <p>3) The obvious part of studies is also building contacts abroad, usually through a several mo long stay at an institution abroad.</p> <p>4) The students are also expected to participate actively in specialized seminars of the department, especially those related to history of science – such participation is expected throughout the studies. The students have to present their progress regularly at these semin. – both in terms of dissertation and publishing activities.</p> <p>5) Subject-area board's requirements on publishing activities of doctoral students:</p> <p>a) Obligatory publications before the submission of dissertation (if the dissertation is a monograph): In general, one publication in a scientific journal with IF or in a thematic book is expected, the candidate should be the first and the corresponding author. Such publication should by published in time of the submission or it should be accepted for publication.</p> <p>b) Set of publications (if the dissertation is of a cumulative form, i.e. monothematic set of publications): At least three publications in relevant scientific journals accompanied by an introductory text in the dissertation. At least two publications should be in a journal with IF (exceptions shall be discussed and approved by the subject-area board). The candidate mus by the first and corresponding (or the only) author of at least of these articles – such article must be published in a journal with IF.</p> <p>The requirements given should be met by the end of the fourth grade of studies in order to submit the dissertation successfully.</p> <p>Creative activity requirements</p> <p>The main requirement is the creative activity of the student and continuous work on the doct project. The progress is regularly consulted with the supervisor and is taken into account at t annual assessment. The results are usually presented and discussed in detail once a year a seminar. In the third year the latest, the candidate is obliged to present own work in front of tl department and the members of the subject-area board. Another necessary requirement is a active participation and presentation of own work at international conferences, be it with a poster or an oral presentation. The dissertation may be in a classic form (monograph), or in a cumulative form (set of thematic articles with an introduction). All journal articles and book chapters included in the set of publications in the dissertation shall be closely related to the topic of the doctoral project and must meet the requirements in the point 5 above (see the general study plan). The candidate must be able to defend them all. Other work or publicatio that do not meet the criteria above can be only included in the appendix.</p> <p>Internship requirements</p>

Study programme and form of study	Requirements
	<p>The student is highly recommended to participate at least in one month-long internship abroad (for which there is currently a wide range of options). The Department of Philosophy and History of Science has signed multiple bilateral agreements with the following institutions abroad:</p> <ul style="list-style-type: none"> • Friedrich-Schiller-University of Jena (Faculty of Biology and Pharmacy) link: http://www.ehh.uni-jena.de/ • University of Tartu (Faculty of Philosophy) link: http://www.flfi.ut.ee/en/departement-semiotics • University of Leeds (Faculty of Arts) link: https://www.leeds.ac.uk/arts/info/20042/school_of_philosophy_religion_and_history_of_science • University of Ljubljana (Faculty of Arts) link: https://www.uni-lj.si/academies_and_faculties/faculties/2013071111490274/ • Upon agreement, it is possible to stay also at other institutions abroad, or eventually to sign a new agreement. If you are interested in this way, contact in advance the department's coordinator: lucie.cermakova@natur.cuni.cz <p>Another possibility how to fund a stay abroad is the mobility fund of the Charles University (https://www.natur.cuni.cz/fakulta/oddeleni-pro-vedu/zahranicni-mobilita/fond-mobility-uk), or scholarship based on intergovernmental agreements (http://www.dzs.cz/cz/akademicka-informacni-agentura/43_mezinarodni_smlouvy-rozpis_kvot/). There are news on this topic also on the faculty website (https://www.natur.cuni.cz/fakulta/oddeleni-pro-vedu/zahranicni-mobilita)</p> <p>Other requirements</p> <p>The student should actively attempt to participate in conferences abroad, ideally at least once a year. The department offers a possibility of pedagogical experience by leading own seminar or by teaching with the supervisor or other colleagues. The participation in common grant projects is welcome and recommended (for instance GAUK).</p> <p>The students are recommended to pass the state doctoral exam by the end of the third year of their studies. The exam takes place in front of a committee appointed by the dean upon the recommendation of the subject-area board and the approval of the Research Board of the Faculty. The exam is public. The candidate shall prove deep knowledge in the field and also knowledge in terms of own specialization. This is done by presenting three selected topics (related to the doctoral project) and mainly by an academic discussion with the committee members. The emphasis is given to methodological and interpretational issues. The candidate is expected to prove clearly own knowledge of the field, creative thinking, independent academic thinking, and clear orientation towards finishing the dissertation. The topics for presenting and discussion are chosen by the committee in relation to the specialization of the candidate (but the aim is not to double the topic of dissertation itself).</p>
<p>Theoretical and Evolutionary Biology (P0511D030038) combined</p>	<p>Study requirements</p> <p>1) The individual study plan is determined by the topic of the dissertation. The courses are selected from those offered by the Department of Philosophy and History of Science, Faculty of Science, Charles University, and other courses offered at the Faculty of Science, Faculty of Mathematics and Physics and Faculty of Arts and Philosophy. The student works in a close</p>

Study programme and form of study	Requirements
	<p>cooperation with their supervisor according to whom the subject-area board determines the content of the student's individual plan. The main part of the study programme is the doctoral project whose topic, schedule and solution are the mainly in hands of the PhD candidate. The goal is therefore to develop student's independence and creative potential. The supervisor's role is to stimulate these qualities. The doctoral project is subject to approval of the subject-area board.</p> <p>2) Another requirement is the state final examination. After consulting the supervisor and the head of the subject-area board, the student chooses three sets of questions related to their studies and to the topic of their dissertation.</p> <p>3) The obvious part of studies is also building contacts abroad, usually through a several mo long stay at an institution abroad.</p> <p>4) The students are also expected to participate actively in specialized seminars of the department, especially those related to history of science – such participation is expected throughout the studies. The students have to present their progress regularly at these semin: – both in terms of dissertation and publishing activities.</p> <p>5) Subject-area board's requirements on publishing activities of doctoral students:</p> <p>a) Obligatory publications before the submission of dissertation (if the dissertation is a monograph): In general, one publication in a scientific journal with IF or in a thematic book is expected, the candidate should be the first and the corresponding author. Such publication should by published in time of the submission or it should be accepted for publication.</p> <p>b) Set of publications (if the dissertation is of a cumulative form, i.e. monothematic set of publications): At least three publications in relevant scientific journals accompanied by an introductory text in the dissertation. At least two publications should be in a journal with IF (exceptions shall be discussed and approved by the subject-area board). The candidate mus by the first and corresponding (or the only) author of at least of these articles – such article must be published in a journal with IF.</p> <p>The requirements given should be met by the end of the fourth grade of studies in order to submit the dissertation successfully.</p> <p>Creative activity requirements</p> <p>The main requirement is the creative activity of the student and continuous work on the docto project. The progress is regularly consulted with the supervisor and is taken into account at t annual assessment. The results are usually presented and discussed in detail once a year at seminar. In the third year the latest, the candidate is obliged to present own work in front of tl department and the members of the subject-area board. Another necessary requirement is a active participation and presentation of own work at international conferences, be it with a poster or an oral presentation. The dissertation may be in a classic form (monograph), or in a cumulative form (set of thematic articles with an introduction). All journal articles and book chapters included in the set of publications in the dissertation shall be closely related to the topic of the doctoral project and must meet the requirements in the point 5 above (see the general study plan). The candidate must be able to defend them all. Other work or publicatio that do not meet the criteria above can be only included in the appendix.</p> <p>Internship requirements</p> <p>The student is highly recommended to participate at least in one month-long internship abroa (for which there is currently a wide range of options). The Department of Philosophy and History of Science has signed multiple bilateral agreements with the following institutions abroad:</p> <ul style="list-style-type: none"> • Friedrich-Schiller-University of Jena (Faculty of Biolog and Pharmacy) link: http://www.ehh.uni-jena.de/ • University of Tartu (Faculty of Philosophy) link:

Study programme and form of study	Requirements
	<p>http://www.flfi.ut.ee/en/department-semiotics</p> <ul style="list-style-type: none"> • University of Leeds (Faculty of Arts) link: https://www.leeds.ac.uk/arts/info/20042/school_of_philosophy_religion_and_history_of_scienc • University of Ljubljana (Faculty of Arts) link: https://www.uni-lj.si/academies_and_faculties/faculties/2013071111490274/ • Upon agreement, it is possible to stay also at other institutions abroad, or eventually to sign a new agreement. If you are interested in this way, contact in advance the department's coordinator: lucie.cermakova@natur.cuni.cz <p>Another possibility how to fund a stay abroad is the mobility fund of the Charles University (https://www.natur.cuni.cz/fakulta/oddeleni-pro-vedu/zahranicni-mobilita/fond-mobility-uk), or scholarship based on intergovernmental agreements (http://www.dzs.cz/cz/akademicka-informacni-agentura/43_mezinarodni_smlouvy-rozpis_kvot/). There are news on this topic also on the faculty website (https://www.natur.cuni.cz/fakulta/oddeleni-pro-vedu/zahranicni-mobilita)</p> <p>Other requirements</p> <p>The student should actively attempt to participate in conferences abroad, ideally at least once a year. The department offers a possibility of pedagogical experience by leading own seminar or by teaching with the supervisor or other colleagues. The participation in common grant projects is welcome and recommended (for instance GAUK).</p> <p>The students are recommended to pass the state doctoral exam by the end of the third year their studies. The exam takes place in front of a committee appointed by the dean upon the recommendation of the subject-area board and the approval of the Research Board of the Faculty. The exam is public. The candidate shall prove deep knowledge in the field and also knowledge in terms of own specialization. This is done by presenting three selected topics (related to the doctoral project) and mainly by an academic discussion with the committee members. The emphasis is given to methodological and interpretational issues. The candidate is expected to prove clearly own knowledge of the field, creative thinking, independent academic thinking, and clear orientation towards finishing the dissertation. The topics for presenting and discussion are chosen by the committee in relation to the specialization of the candidate (but the aim is not to double the topic of dissertation itself).</p>
<p>Zoology (P0511D030027)</p> <p>full-time</p>	<p>Study obligations are always determined individually depending on the needs of the given student and the dissertation project. Generally includes at least 2 examinations from specialized subjects at the master's level or higher, in addition, regular participation in department seminars and possible completion of specialized courses.</p> <p>Dissertation should be written in a cumulative format (set of works with an introduction). The must include at least two articles which have already been published or have been accepted publication in a journal with IF when the dissertation is submitted, while the remaining works may be manuscripts still under the review process at this time (i.e., at least submitted to the editor). Besides journals with IF, we accept other forms of scientific publications as, e.g., book chapters and other peer-reviewed journals. The candidate must be the first author of at least one work belonging to the dissertation set (shared first authorship is acceptable).</p> <p>We expressly point out that this condition is required, but in itself not sufficient. Failure to meet this condition clearly prevents acceptance of dissertation work, but meeting this condition does not guarantee the award of a doctoral degree in the field of zoology. The assessment is up to</p>

Study programme and form of study	Requirements
	<p>the defense committee in the context of the typical level of defended dissertation work seen in our subject area board. We must point out that the average quality of defended work is quickly growing. In recent years, successfully defended doctoral thesis in zoology consisted of 3-11 scientific articles.</p> <p>It is presumed that the work included in the dissertation is work to which the doctoral student has made significant contributions in all aspects and not simply the collection of material, laboratory work, statistical analysis or writing of the text. Co-authorship of the supervisor is permitted.</p> <p>All articles included in the set of dissertation work must be related to the dissertation topic (others may only be included as informative appendices) and the doctoral student must be able to defend them to full extent.</p> <p>The candidate must be a regular author or co-author of all works included into a dissertation set. Each of these works must include explicit affiliation of the candidate to the Faculty of Science, Charles University. In justified cases, shared affiliation to multiple institutions is acceptable.</p> <p>We do not require any formal language examination. However, we presume incoming doctoral students to have sufficient knowledge of English to enable basic scientific communication both written and oral. If a student is found to be severely deficient in this area, the subject area board may require instruction. Knowledge of additional languages (world, local and possibly dead - depending on the needs of the specific concentration) is very welcome, taken into consideration, but is not a mandatory requirement, unless absolutely necessary for the given dissertation topic.</p> <p>To a reasonable degree doctoral students will take part in regular instruction during labs, excursions and seminars in individual fields. This participation is always subject to approval by the teacher responsible for the given instruction or task. The exact extent of this participation will be primarily determined by the supervisor, or by the subject area board in unclear situations. During the course of the semester doctoral students are required to regularly attend the seminars of individual "departments" as well as the defense of theses and actively contribute to the creative atmosphere of the entire workplace (for part-time study this applies commensurately). In justified cases they may be invited as thesis supervisors (only for undergraduates), consultants or readers.</p> <p>Internships at foreign workplaces and on expeditions are considered a major component of study. Internships are carried out within the scope of financial possibilities. Since internships depend on external financing which the workplace can only influence partially, they cannot be required of every doctoral student. The relevance of a planned trip abroad and its recognition as a part of doctoral study is primarily determined by the supervisor or subject area board.</p>
<p>Zoology (P0511D030027) combined</p>	<p>Study obligations are always determined individually depending on the needs of the given student and the dissertation project. Generally includes at least 2 examinations from specialized subjects at the master's level or higher, in addition, regular participation in department seminars and possible completion of specialized courses.</p> <p>Dissertation should be written in a cumulative format (set of works with an introduction). The dissertation must include at least two articles which have already been published or have been accepted for publication in a journal with IF when the dissertation is submitted, while the remaining works may be manuscripts still under the review process at this time (i.e., at least submitted to the editor). Besides journals with IF, we accept other forms of scientific publications as, e.g., book chapters and other peer-reviewed journals. The candidate must be the first author of at least one work belonging to the dissertation set (shared first authorship is acceptable).</p> <p>We expressly point out that this condition is required, but in itself not sufficient. Failure to meet this condition clearly prevents acceptance of dissertation work, but meeting this condition does not guarantee the award of a doctoral degree in the field of zoology. The assessment is up to the defense committee in the context of the typical level of defended dissertation work seen in our subject area board. We must point out that the average quality of defended work is quickly growing. In recent years, successfully defended doctoral thesis in zoology consisted of 3-11 scientific articles.</p>

Study programme and form of study	Requirements
	<p>It is presumed that the work included in the dissertation is work to which the doctoral student has made significant contributions in all aspects and not simply the collection of material, laboratory work, statistical analysis or writing of the text. Co-authorship of the supervisor is permitted.</p> <p>All articles included in the set of dissertation work must be related to the dissertation topic (others may only be included as informative appendices) and the doctoral student must be able to defend them to full extent.</p> <p>The candidate must be a regular author or co-author of all works included into a dissertation set. Each of these works must include explicit affiliation of the candidate to the Faculty of Science, Charles University. In justified cases, shared affiliation to multiple institutions is acceptable.</p> <p>We do not require any formal language examination. However, we presume incoming doctoral students to have sufficient knowledge of English to enable basic scientific communication both written and oral. If a student is found to be severely deficient in this area, the subject area board may require instruction. Knowledge of additional languages (world, local and possibly dead - depending on the needs of the specific concentration) is very welcome, taken into consideration, but is not a mandatory requirement, unless absolutely necessary for the given dissertation topic.</p> <p>To a reasonable degree doctoral students will take part in regular instruction during labs, excursions and seminars in individual fields. This participation is always subject to approval by the teacher responsible for the given instruction or task. The exact extent of this participation will be primarily determined by the supervisor, or by the subject area board in unclear situations. During the course of the semester doctoral students are required to regularly attend the seminars of individual "departments" as well as the defense of theses and actively contribute to the creative atmosphere of the entire workplace (for part-time study this applies commensurately). In justified cases they may be invited as thesis supervisors (only for undergraduates), consultants or readers.</p> <p>Internships at foreign workplaces and on expeditions are considered a major component of study. Internships are carried out within the scope of financial possibilities. Since internships depend on external financing which the workplace can only influence partially, they cannot be required of every doctoral student. The relevance of a planned trip abroad and its recognition as a part of doctoral study is primarily determined by the supervisor or subject area board.</p>