

Minimal requirements for ISP of PhD students enrolled in the academic year 2019/2020

Study programme	Form of study	Requirements
Analytical Chemistry (P1403)	full-time	<p>The obligatory part of the individual study plan (ISP) is four examinations in specialized subject, 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 doctoral 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>
	combined	<p>The obligatory part of the individual study plan (ISP) is four examinations in specialized subject, which the doctoral student chooses in agreement with the supervisor from the offer of all</p>

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		<p>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 doctoral 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>
Animal Physiology (P1521)	full-time	<p>A part of individual study plan (ISP) are 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 and state doctoral examination completed before the end of the third year of study.</p> <p>Doctoral dissertation work 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</p>

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		<p>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 of 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. Two printed versions of the dissertation must be submitted for the defense.</p> <p>The students actively participate in congresses and symposia here and abroad, and they are able to present the results of their work at seminars in the form of lectures with discussion. Full-time study students usually participate in instruction and in leading and/or evaluating undergraduate work. Teaching activities of doctoral students are always coordinated with the supervisor.</p> <p>It is recommended to travel for internships lasting several months as part of collaboration with overseas organizations or within the frame of the ERASMUS student exchange program. 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>
	combined	<p>A part of individual study plan (ISP) are 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 and state doctoral examination completed before the end of the third year of study.</p> <p>Doctoral dissertation work 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</p>

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Anthropology and Human Genetics (P1525)	full-time	<p>Povinné předměty ISP se stanovují individuálně s ohledem na zaměření disertační práce.</p> <p>Je vyžadována zkouška z angličtiny (alespoň ÚJOP UK).</p> <p>Disertační práci je možné odevzdat ve dvou formálních úpravách.</p> <p>Klasická forma disertační práce je text v plném odborném rozsahu doplněná dvěma publikacemi v impaktovaných časopisech z databáze WOS/WOSS:</p>

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		<p>1. publikace: doktorand je hlavní/ korespondující autor; publikace shrnuje výsledky či část výsledků obhajovaných v disertační práci. Publikované výsledky se s disertací kryjí například použitými tabulkami, grafy či zjištěnými výsledky.</p> <p>2. publikace: doktorand je spoluautorem; publikace se nemusí nutně dotýkat přímo disertační práce, ale musí být jasný alespoň nepřímý vztah k výzkumnému tématu.</p> <p>Souhrnná forma disertační práce (tj. disertace sestává ze souhrnu): Celkem je nutných pět publikací v impaktovaných časopisech z databáze WOS/WOSS, z toho dvě publikace s výsledky, kde je doktorand hlavním autorem a u tří publikací může být spoluautorem. Corpus publikací musí tvořit ucelenou koncepci a strukturu výzkumného záměru tématu disertační práce. Tato koncepce bude reflektována v souhrnu disertační práce.</p> <p>U všech publikací předložených k obhajobě disertační práce je nutné doložit afilii k pracovišti katedry antropologie a genetiky člověka na PŘF UK v Praze.</p> <p>Katedra se snaží umožnit studentům doktorského studia rozvíjet jejich pedagogické schopnosti a to zejména participací na vedení specializovaných cvičení. Studenti tak spolupracují s garantem příslušné přednášky a cvičení.</p> <p>Studentům je doporučena stáž v zahraničí. Studentům je doporučena prezentace výsledků na vědecké konferenci. Minimálně v závěru svého studia prezentují výsledky na katedrovém semináři. Student se účastní seminářů či jiných odborných aktivit katedry a školícího pracoviště.</p>
	combined	<p>Povinné předměty ISP se stanovují individuálně s ohledem na zaměření disertační práce.</p> <p>Je vyžadována zkouška z angličtiny (alespoň ÚJOP UK).</p> <p>Disertační práci je možné odevzdat ve dvou formálních úpravách. Klasická forma disertační práce je text v plném odborném rozsahu doplněná dvěma publikacemi v impaktovaných časopisech z databáze WOS/WOSS:</p> <p>1. publikace: doktorand je hlavní/ korespondující autor; publikace shrnuje výsledky či část výsledků obhajovaných v disertační práci. Publikované výsledky se s disertací kryjí například použitými tabulkami, grafy či zjištěnými výsledky.</p> <p>2. publikace: doktorand je spoluautorem; publikace se nemusí nutně dotýkat přímo disertační práce, ale musí být jasný alespoň nepřímý vztah k výzkumnému tématu.</p> <p>Souhrnná forma disertační práce (tj. disertace sestává ze souhrnu):</p>

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Applied Geology (P1202)	full-time	<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.</p> <p>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.</p> <p>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 intership) at a foreign workplace (as recommended by the supervisor) for a period of at least 6 months.</p> <p>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.</p> <p>A dissertation in classic format is a monograph manuscript</p>

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		<p>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.</p> <p>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 in one dissertation work, which will be determined by the supervisor.</p> <p>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.</p> <p>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</p>

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		<p>can become familiar with the research procedures at other workplaces and actively become involved in the research there.</p>
	combined	<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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>

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		<p>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 in one dissertation work, which will be determined by the supervisor.</p> <p>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.</p> <p>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>
Biochemistry (P1406)	full-time	<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</p>

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		<p>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 articles) 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>

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	combined	<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 articles) 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>
Botany (P1507)	full-time	<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</p>

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		<p>scientific articles, with a broader unifying 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 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>
	combined	<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 unifying 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 format of articles) must be part of the dissertation text (and not an appendix). All articles must be related to the dissertation topic.</p>

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Cartography, Geoinformatics and Remote Sensing (P1310)	full-time	<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>Absolvování minimálně tří odborných zkoušek z předmětů tematicky blízkých problematice řešené v dizertační práci. Minimálně polovinu předepsaných zkoušek doktorand absoluuje do konce 1. ročníku studia, zbývající zkoušky do konce 2. ročníku studia. Jednu z předepsaných zkoušek doktorand zpravidla absoluuje mimo PŘF UK.</p> <p>Absolvování semináře doktorandů v každém roce studia s aktivní účastí v rozsahu a s obsahem odpovídajícím požadovanému stupni rozpracovanosti dizertační práce v daném ročníku studia. Během prvních dvou let studia doktorand prezentuje dílčí problematiku tématu dizertace, počínaje třetím rokem přednáší rozpracovanost dizertační práce v podobě vybraných výstupů z připravované dizertační práce.</p> <p>Státní doktorskou zkoušku je třeba vykonat nejpozději do konce 3. ročníku studia. Státní doktorská zkouška má dvě části: a) rozprava na téma dizertační práce a b) oborová zkouška.</p> <p>Povinné publikace před obhajobou dizertační práce v podobě monografie: minimálně 3 práce v recenzovaných odborných časopisech. Z uvedeného počtu musí být alespoň 1 článek zveřejněn v zahraničním recenzovaném odborném periodiku a alespoň dvě publikace otištěny v časopise s impaktním faktorem.</p> <p>Povinné publikace v případě odevzdání dizertační práce jako monotematického souboru publikací: minimálně 6 příspěvků v recenzovaném odborném časopise. Z uvedeného počtu musí být alespoň 4 články zveřejněné v zahraničních recenzovaných časopisech a alespoň 3 články otištěny v periodiku s impaktním faktorem. Od předložených publikací se vyžaduje, aby tvořily logický, tematicky kompaktní celek a byly uvedeny a sjednoceny první a uzavřeny závěrečnou kapitolou.</p> <p>Součástí odevzdané dizertační práce je odborný životopis uchazeče a úplný seznam všech jeho publikací. Obojí je zpravidla uvedeno na konci práce za seznamem použité literatury.</p> <p>Spolu s prací student odevzdává v elektronické podobě předsedovi oborové rady stručné shrnutí hlavních výsledků práce s důrazem na jeho vlastní přínos v doporučeném rozsahu 2 stran formátu A4. Tento dokument nahrazuje autoreferát a jeho smyslem je poskytnout členům komise podklady pro odbornou diskuzi při obhajobě.</p>

Study programme	Form of study	Requirements
		<p>V průběhu studia doktorand absolvuje zahraniční stáž v rozsahu minimálně 3 měsíců, doporučená délka stáže je 6 měsíců.</p> <p>V průběhu studia se doktorand aktivně účastní domácích a zahraničních konferencí, přičemž již v 1. ročníku studia samostatně prezentuje minimálně jeden příspěvek na vybrané akci.</p> <p>Od 1. ročníku studia se doktorand v úzké spolupráci se školitelem zapojuje do výzkumu. Zejména se jedná o aktivní zapojení do výzkumných projektů řešených na katedře souvisejících s tématem doktorandovy práce. Vedle toho předkládá návrhy na získání vlastních projektů určených pro podporu doktorského studia (GAUK, granty pro doktorandy apod.).</p> <p>Doktorand v prezenční formě studia se aktivně podílí na činnostech souvisejících s výukou zajišťovanou katedrou podle potřeby jejího vedení v přiměřeném rozsahu zpravidla 4 hodin týdně. Tato činnost zahrnuje účast na výuce v některých z hlavních výukových aktivit, jako jsou přednášky, cvičení, semináře, exkurze apod. O zapojení doktoranda do pedagogické činnosti rozhoduje vedoucí katedry po konzultaci s pedagogem odpovědným za výuku daného předmětu a se školitelem. Doktorand v prezenční formě studia se podílí na vedení bakalářských prací a jejich oponentuře, příp. ve spolupráci se školitelem i na vedení diplomových prací.</p>
	combined	<p>Absolvování minimálně tří odborných zkoušek z předmětů tematicky blízkých problematice řešené v dizertační práci. Minimálně polovinu předepsaných zkoušek doktorand absolvuje do konce 1. ročníku studia, zbývající zkoušky do konce 2. ročníku studia. Jednu z předepsaných zkoušek doktorand zpravidla absolvuje mimo PŘF UK.</p> <p>Absolvování semináře doktorandů v každém roce studia s aktivní účastí v rozsahu a s obsahem odpovídajícím požadovanému stupni rozpracovanosti dizertační práce v daném ročníku studia. Během prvních dvou let studia doktorand prezentuje dílčí problematiku tématu dizertace, počínaje třetím rokem přednáší rozpracovanost dizertační práce v podobě vybraných výstupů z připravované dizertační práce.</p> <p>Státní doktorskou zkoušku je třeba vykonat nejpozději do konce 3. ročníku studia. Státní doktorská zkouška má dvě části: a) rozprava na téma dizertační práce a b) oborová zkouška.</p> <p>Povinné publikace před obhajobou dizertační práce v podobě monografie: minimálně 3 práce v recenzovaných odborných časopisech. Z uvedeného počtu musí být alespoň 1 článek zveřejněn v zahraničním recenzovaném odborném periodiku a</p>

Study programme	Form of study	Requirements
		<p>alespoň dvě publikace otištěny v časopise s impaktním faktorem.</p> <p>Povinné publikace v případě odevzdání dizertační práce jako monotematického souboru publikací: minimálně 6 příspěvků v recenzovaném odborném časopise. Z uvedeného počtu musí být alespoň 4 články zveřejněné v zahraničních recenzovaných časopisech a alespoň 3 články otištěny v periodiku s impaktním faktorem. Od předložených publikací se vyžaduje, aby tvořily logický, tematicky kompaktní celek a byly uvedeny a sjednoceny první a uzavřeny závěrečnou kapitolou.</p> <p>Součástí odevzdané dizertační práce je odborný životopis uchazeče a úplný seznam všech jeho publikací. Obojí je zpravidla uvedeno na konci práce za seznamem použité literatury.</p> <p>Spolu s prací student odevzdává v elektronické podobě předsedovi oborové rady stručné shrnutí hlavních výsledků práce s důrazem na jeho vlastní přínos v doporučeném rozsahu 2 stran formátu A4. Tento dokument nahrazuje autoreferát a jeho smyslem je poskytnout členům komise podklady pro odbornou diskusi při obhajobě.</p> <p>V průběhu studia doktorand absolvuje zahraniční stáž v rozsahu minimálně 3 měsíců, doporučená délka stáže je 6 měsíců.</p> <p>V průběhu studia se doktorand aktivně účastní domácích a zahraničních konferencí, přičemž již v 1. ročníku studia samostatně prezentuje minimálně jeden příspěvek na vybrané akci.</p> <p>Od 1. ročníku studia se doktorand v úzké spolupráci se školitelem zapojuje do výzkumu. Zejména se jedná o aktivní zapojení do výzkumných projektů řešených na katedře souvisejících s tématem doktorandovy práce. Vedle toho předkládá návrhy na získání vlastních projektů určených pro podporu doktorského studia (GAUK, granty pro doktorandy apod.).</p> <p>Doktorand v prezenční formě studia se aktivně podílí na činnostech souvisejících s výukou zajišťovanou katedrou podle potřeby jejího vedení v přiměřeném rozsahu zpravidla 4 hodin týdně. Tato činnost zahrnuje účast na výuce v některých z hlavních výukových aktivit, jako jsou přednášky, cvičení, semináře, exkurze apod. O zapojení doktoranda do pedagogické činnosti rozhoduje vedoucí katedry po konzultaci s pedagogem odpovědným za výuku daného předmětu a se školitelem. Doktorand v prezenční formě studia se podílí na vedení bakalářských prací a jejich oponentuře, příp. ve spolupráci se školitelem i na vedení diplomových prací.</p>

Study programme	Form of study	Requirements
Demography (P1303)	full-time	<p>The students need to take part in a General colloquium (DEM) (MPGS0120) during the first year of their studies (by the end of the second year the latest). Individual study plan must include at least three specialized examinations in subjects thematically related to the dissertation work by the end of the second year of their studies. The state doctoral examination must be taken the end of the 3rd year of study.</p> <p>Before the defence of their dissertation, the students need to publish at least two scientific articles in peer-reviewed journals with IF, one can be substituted by a book in a peer-reviewed book. Exceptionally (i.e. due to the topic of the dissertation), the subject-area board can accept two Scopus/WoS articles instead of one IF article. If an article has not been published yet, the student has to provide a confirmation by the journal's board that the article has been accepted.</p> <p>The publications must be related to the dissertation topic and they must include the affiliation to the faculty.</p> <p>Dissertation in the form of a set of publications must include four scientific articles in peer-reviewed scientific journals (at least one in an IF journal). Such dissertation can include book chapters. All the publications must constitute one logical unit, there must be an introduction and a conclusion. The introduction must be a substantial text to summarize the main contribution of the student. The conclusion must include discussion of key results and the possibilities of future research. The number of publications (four) is not crucial – more important is the quality and logical order of the set of publications that prove scientific abilities. In case of collective articles, the student's share must be provided. At least one publication must be written by the student alone (100% authorship) and he/she must be a lead author of one other publication. All the publications must include affiliation to the faculty.</p> <p>Participation in instruction is coordinated with the supervisor and department head as well as participation in leading and/or evaluating undergraduate and master's theses.</p> <p>The students have to spend some time abroad, studying or researching for their dissertation. The stay should be at least one month. International mobility is a part of the individual study plan.</p> <p>The student should participate each year in seminars where ongoing dissertation work from all doctoral students is presented, and participate each year in at least one demographic conferences (in Czechia or abroad) where the student present a poster or give a lecture.</p> <p>Students assist in activities conducted by the department</p>

Study programme	Form of study	Requirements
		<p>(such are conferences and seminars held by the department, admissions, etc.)</p> <p>The students need to take part in a General colloquium (DEM) (MPGS0120) during the first year of their studies (by the end of the second year the latest). The form of the colloquium may differ from full-time study. Participation can be replaced by completion the requirements of the supervisor. Individual study plan must include at least three specialized examinations in subjects thematically related to the dissertation work by the end of the second year of their studies. The state doctoral examination must be taken the end of the 3rd year of study.</p> <p>Before the defence of their dissertation, the students need to publish at least two scientific articles in peer-reviewed journals with IF, one can be substituted by a book in a peer-reviewed book. Exceptionally (i.e. due to the topic of the dissertation), the subject-area board can accept two Scopus/WoS articles instead of one IF article. If an article has not been published yet, the student has to provide a confirmation by the journal's board that the article has been accepted.</p> <p>The publications must be related to the dissertation topic and they must include the affiliation to the faculty.</p> <p>Dissertation in the form of a set of publications must include four scientific articles in peer-reviewed scientific journals (at least one in an IF journal). Such dissertation can include book chapters. All the publications must constitute one logical unit, there must be an introduction and a conclusion. The introduction must be a substantial text to summarize the main contribution of the student. The conclusion must include discussion of key results and the possibilities of future research. The number of publications (four) is not crucial – more important is the quality and logical order of the set of publications that prove scientific abilities. In case of collective articles, the student's share must be provided. At least one publication must be written by the student alone (100% authorship) and he/she must be a lead author of one other publication. All the publications must include affiliation to the faculty.</p> <p>Participation in instruction is coordinated with the supervisor and department head as well as participation in leading and/or evaluating undergraduate and master's theses.</p> <p>The students have to spend some time abroad, studying or researching for their dissertation. The stay should be at least one month. International mobility is a part of the individual study plan.</p> <p>The student should participate each year in seminars where ongoing dissertation work from all doctoral students is presented, and participate each year in at least one demographic conferences (in Czechia or abroad) where the</p>
	combined	

Study programme	Form of study	Requirements
		<p>student present a poster or give a lecture.</p> <p>Students can assist in activities conducted by the department (such are conferences and seminars held by the department, admissions, etc.).</p>
<p>Developmental and Cell Biology (P1529)</p>	<p>full-time</p>	<p>Study requirements for PhD students of Developmental and Cell Biology</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)</p> <p>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)</p> <p>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

Study programme	Form of study	Requirements
		<ul style="list-style-type: none"> • 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. v. i.) 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. v. i.) 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/ (according to the 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/ (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 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 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. 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>

Study programme	Form of study	Requirements
		<p>The state doctoral exam is an important control point of the study, in addition to the annual ISP 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 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 date 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</p>

Study programme	Form of study	Requirements
		<p>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. 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>
	combined	<p>Study requirements for PhD students of Developmental and Cell Biology 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. Learning goal 1 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. (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. (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

Study programme	Form of study	Requirements
		<ul style="list-style-type: none"> • 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. v. i.) 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. v. i.) 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/ (according to the 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/ (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 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 Students are required to attend the conference of doctoral</p>

Study programme	Form of study	Requirements
		<p>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. Active participation in international conferences according to the focus and possibilities of the mentor's team is also recommended.</p> <p>Ph.D. exam The state doctoral exam is an important control point of the study, in addition to the annual ISP 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 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/</p>

Study programme	Form of study	Requirements
		<p>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 date 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>
Didactics of Chemistry (P0111D300004)	full-time	
	combined	
Ecology (P1514)	full-time	<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-reviewed 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 focus of the work is on manuscripts which can</p>

Study programme	Form of study	Requirements
		<p>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>
	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-reviewed 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 does 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	full-time	Obligatory courses are set individually regarding to the dissertation topic. Common is passing at least two specialized

Study programme	Form of study	Requirements
(P3931)		<p>courses ending in an examination during the study.</p> <p>For classic (monograph) dissertation form, at least one publication in an IF journal is requested, a second (in English) in a peer-reviewed journal (RIV, SCOPUS), while the doctoral student must be the lead author for at least one of these. It is always understood that work shall pertain to the subject of the dissertation. Work (even with an IF) which is not related to the dissertation topic will not be counted (a publication is also understood to be work accepted for publishing following a peer review).</p> <p>Monothematic set of works - At least four related works in extenso, at least one of which is published in a journal with IF and one in a peer-reviewed journal (listed in RIV, SCOPUS), while the other two (or more) works may be in the form of manuscripts prepared for publication. The set of works will be tied together by a common introduction and conclusion and submitted in bound form. The student must be the lead author of at least one publication (a publication is understood as work accepted for publication in a peer-reviewed journal)</p> <p>All publications arising in conjunction with work on the dissertation project (while studying at the Department of Environmental Science) as a full-time or part-time student where the student is the lead author must include the address (affiliation) of the accredited workplace, i.e. DES FS, even when the dissertation work is prepared at a workplace outside CU.</p> <p>Participation in leadings and/or evaluating undergraduate and master's work (for full-time and part-time study) and participation in regular instruction (for full-time study) is expected and coordinated with the head of the institute.</p> <p>Every student should actively participate at least once in an international conference and domestic conference and report in at least two specialized seminars.</p>
	combined	<p>Obligatory courses are set individually regarding to the dissertation topic. Common is passing at least two specialized courses ending in an examination during the study.</p> <p>For classic (monograph) dissertation form, at least one publication in an IF journal is requested, a second (in English) in a peer-reviewed journal (RIV, SCOPUS), while the doctoral student must be the lead author for at least one of these. It is always understood that work shall pertain to the subject of the dissertation. Work (even with an IF) which is not related to the dissertation topic will not be counted (a publication is also understood to be work accepted for publishing following a peer review).</p> <p>Monothematic set of works - At least four related works in extenso, at least one of which is published in a journal with IF and one in a peer-reviewed journal (listed in RIV, SCOPUS), while the other two (or more) works may be in the form of manuscripts prepared for publication. The set of works will be tied together by a common introduction and conclusion and submitted in bound form. The student must be the lead author of at least one publication (a publication is understood as work</p>

Study programme	Form of study	Requirements
		<p>accepted for publication in a peer-reviewed journal) All publications arising in conjunction with work on the dissertation project (while studying at the Department of Environmental Science) as a full-time or part-time student where the student is the lead author must include the address (affiliation) of the accredited workplace, i.e. DES FS, even when the dissertation work is prepared at a workplace outside CU.</p> <p>Participation in leadings and/or evaluating undergraduate and master's work (for full-time and part-time study) and participation in regular instruction (for full-time study) is expected and coordinated with the head of the institute.</p> <p>Every student should actively participate at least once in an international conference and domestic conference and report in at least two specialized seminars.</p>
<p>General Issues in Geography (P1315)</p>	<p>full-time</p>	<p>Every PhD candidate has to take the course General Colloquium (MPG0119) in the first year of study, by the end of the second year the latest. The student has to take at least three or four other exams in subjects related to their dissertation topic. The subjects are selected together with the student's supervisor. As a rule, the examiner is not the supervisor. At least two of these exams have to be passed before the end of the first year of study, the rest by the end of the second year. One of the exams shall be passed outside the Faculty of Science, Charles University. By the end of the second year of study, the student needs to pass theoretical-methodological discussion (OOG) (MPGS0122). The text is submitted electronically to the supervisor. The submission is followed by a discussion that prepares the student for their state doctoral examination (MSZX010). The state doctoral exam has to be by the end of the second year of study.</p> <p>Starting with the third year of study, the student has to present work on their presentation annually. Such presentation takes place during a doctoral seminar or during a committee set by the subject-area board.</p> <p>Before the defence of the dissertation, the student needs to publish at least to papers in peer-reviewed scientific journals. At least one of the journals must have the impact factor. One paper can be substituted by a chapter in a peer-reviewed scientific book. If appropriate (e.g. due to the topic of the dissertation), the subject-area board can allow publishing in journals from the WoS/Scopus database instead of journals with the impact factor. If the paper is not published yet, the student shall provide a confirmation of acceptance by a journal's editorial board. The papers must be related to the topic of the dissertation. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Dissertation in the form of a set of publications on the same topic: minimum are four scientific papers in peer-reviewed scientific journals (at least one of them must have the impact factor). It is possible to include chapters from peer-reviewed scientific books. All the papers must form a logical, thematically unified set. They must be complemented by an</p>

Study programme	Form of study	Requirements
		<p>introductory chapter and by a conclusion. The introduction must be a fundamental text capturing the essence of the student's research activities. The conclusion should include the key findings and possibilities of further research and its key issues. The number of at least four papers in the dissertation is not crucial, what is crucial is their quality and logical interconnectedness proving scientific abilities of the student. If the papers have more authors, there needs to be a specification of the student's contribution. The contribution is specified by a first author, a team manager, a supervisor, etc. At least one of the papers must be published solely by the student (100% authorship) and at least one of the other papers must have the student as the first author. Only papers affiliated to the Faculty of Science, Charles University are accepted. Normally, the first paper shall be submitted for a review by the end of the second year of study. The second paper shall be submitted by the end of the third year of study. By the end of the third year, the student should have one peer-reviewed publication accepted. By the end of the fourth year, the second paper should be accepted.</p> <p>The student takes part in pedagogical activities of their supervisor or those provided by their department. The student takes part in lectures, seminars, excursions, life-long learning programmes, etc. Pedagogical activities are related to the student's dissertation and the exact form is determined by the supervisor. By the end of the third year of study, the student has usually taught at least one semester two hours per week. The student supervises bachelor theses and can also assist their supervisor in supervision of master theses. At the beginning of every academic year, the student has to insert 2-3 topics of potential (bachelor) theses in SIS. The supervisor is normally added as a consultant. The student takes part in the seminar for master students.</p> <p>The students needs to do an internship (study or research stay) abroad that is related to their dissertation. It should last at least one month. Foreign mobility is an integral part of doctoral studies.</p> <p>The student takes part in department's activities as much as possible. The information about activities and events is usually distributed via e-mail.</p> <p>Since the beginning of the studies, the student works closely with their supervisor on research. The student participates in the projects realised by their research team. Starting with the first year of study, the student usually applies for their own grant – e.g. GAUK.</p> <p>By the end of the second year, the student should actively participate in a conference abroad.</p> <p>Publication activities of the student are recorded in OBD of the Faculty of Science. Study and research stays are recorded in SIS in the application Internships.</p>
	combined	<p>Every PhD candidate has to take the course General Colloquium (MPG0119) in the first year of study, by the end of the second year the latest. Then the student needs to choose</p>

Study programme	Form of study	Requirements
		<p>between Theory of Social Geography for PGS (MPGS0088) and Theory of regional development for PGS (MPGS0089). The student has to take at least two or three other exams in subjects related to their dissertation topic. The subjects are selected together with the student's supervisor. As a rule, the examiner is not the supervisor. At least two of these exams have to be passed before the end of the first year of study, the rest by the end of the second year. One of the exams shall be passed outside the Faculty of Science, Charles University. By the end of the second year of study, the student needs to pass theoretical-methodological discussion (OOG) (MPGS0122). The text is submitted electronically to the supervisor. The submission is followed by a discussion that prepares the student for their state doctoral examination (MSZX010). The state doctoral exam has to be by the end of the second year of study.</p> <p>Starting with the third year of study, the student has to present work on their presentation annually. Such presentation takes place during a doctoral seminar or during a committee set by the subject-area board.</p> <p>Before the defence of the dissertation, the student needs to publish at least to papers in peer-reviewed scientific journals. At least one of the journals must have the impact factor. One paper can be substituted by a chapter in a peer-reviewed scientific book. If appropriate (e.g. due to the topic of the dissertation), the subject-area board can allow publishing in journals from the WoS/Scopus database instead of journals with the impact factor. If the paper is not published yet, the student shall provide a confirmation of acceptance by a journal's editorial board. The papers must be related to the topic of the dissertation. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Dissertation in the form of a set of publications on the same topic: minimum are four scientific papers in peer-reviewed scientific journals (at least one of them must have the impact factor). It is possible to include chapters from peer-reviewed scientific books. All the papers must form a logical, thematically unified set. They must be complemented by an introductory chapter and by a conclusion. The introduction must be a fundamental text capturing the essence of the student's research activities. The conclusion should include the key findings and possibilities of further research and its key issues. The number of at least four papers in the dissertation is not crucial, what is crucial is their quality and logical interconnectedness proving scientific abilities of the student. If the papers have more authors, there needs to be a specification of the student's contribution. The contribution is specified by a first author, a team manager, a supervisor, etc. At least one of the papers must be published solely by the student (100% authorship) and at least one of the other papers must have the student as the first author. Only papers affiliated to the Faculty of Science, Charles University are accepted. Normally, the first paper shall be submitted for a review by the</p>

Study programme	Form of study	Requirements
		<p>end of the second year of study. The second paper shall be submitted by the end of the third year of study. By the end of the third year, the student should have one peer-reviewed publication accepted. By the end of the fourth year, the second paper should be accepted.</p> <p>The student can take part in pedagogical activities of their supervisor or those provided by their department. Pedagogical activities are related to the student's dissertation and the exact form is determined by the supervisor. The student can supervise bachelor theses and can also assist their supervisor in supervision of master theses.</p> <p>The students needs to do an internship (study or research stay) abroad that is related to their dissertation. It should last at least one month. Foreign mobility is an integral part of doctoral studies.</p> <p>Since the beginning of the studies, the student works closely with their supervisor on research. The student participates in the projects realised by their research team. Starting with the first year of study, the student usually applies for their own grant – e.g. GAUK.</p> <p>By the end of the second year, the student should actively participate in a conference abroad.</p> <p>Publication activities of the student are recorded in OBD of the Faculty of Science. Study and research stays are recorded in SIS in the application Internships.</p>
Geology (P1201)	full-time	<p>The individual study plan (ISP) includes at least two (and not more than five) examinations in specialized subjects at master's level or higher. The examinations must be related to the dissertation topic. The exams are specified in the individual study plan of the student and are usually passed during first two years of doctoral studies. The state doctoral examination (SDZk) should be taken during the second or the third year of the study. The state doctoral exam includes two, or more if necessary, subjects related to the dissertation topic and the courses taken during the studies. The students of the combined type of study must take the state exam during the fourth year the latest.</p> <p>The study plan can include short courses offered in Czechia and abroad.</p> <p>An integral part of study is participation in institutional and sectional seminars and similar faculty scientific activities. Each year, the subject-area board organizes "doctoral study days", where students present the current ongoing results of their dissertation work in English. The participation is obligatory for full-time students, the students of the combined type of study are expected to participate at least every second year.</p> <p>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 include at least</p>

Study programme	Form of study	Requirements
		<p>one article published or accepted for publication in an impact journal (listed in the ISI Web of Science database) which is closely related to the dissertation topic and the doctoral student is the lead author. The total length of the dissertation is expected to be between 150 and 250 pages, including pictures and bibliography.</p> <p>A dissertation in cumulative format contains an introduction accompanied by scientific publications. The introduction (of minimum 15,000 words) 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 connection to each other. A cumulative dissertation must contain at least three articles in impacted journals (first or second quartile, i.e. Q1 or Q2), two of which must be published or accepted for publication, while the others may be manuscripts in the review process, and the doctoral student must be the lead author of two of these. All articles must be related to the dissertation topic.</p> <p>In both dissertation formats, the articles accepted as part of the dissertation are those that include the Faculty of Science as the only or secondary institution of the author. Without such affiliation, an article cannot be included in a dissertation.</p> <p>Participation in professional conferences and the presentation of a contribution (poster and/or oral presentation) is a required component of the doctoral study program.</p> <p>A standard component of studies is a professional internship at a reputable foreign workplace at a duration of one month or more.</p>
	combined	<p>The individual study plan (ISP) includes at least two (and not more than five) examinations in specialized subjects at master's level or higher. The examinations must be related to the dissertation topic. Fulfillment of study duties is part of the individual study plan. The state doctoral exam includes two, or more if necessary, subjects related to the dissertation topic and the courses taken during the studies. The students of the combined type of study must take the state exam during the fourth year the latest.</p> <p>The study plan can include short courses offered in Czechia and abroad.</p> <p>An integral part of study is participation in institutional and sectional seminars and similar faculty scientific activities. Each year, the subject-area board organizes "doctoral study days", where students present the current ongoing results of their dissertation work in English. The participation is obligatory for full-time students, the students of the combined type of study are expected to participate at least every second year.</p> <p>A dissertation in classic format is a monograph manuscript</p>

Study programme	Form of study	Requirements
		<p>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 include at least one article published or accepted for publication in an impact journal (listed in the ISI Web of Science database) which is closely related to the dissertation topic and the doctoral student is the lead author. The total length of the dissertation is expected to be between 150 and 250 pages, including pictures and bibliography.</p> <p>A dissertation in cumulative format contains an introduction accompanied by scientific publications. The introduction (of minimum 15,000 words) 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 connection to each other. A cumulative dissertation must contain at least three articles in impacted journals (first or second quartile, i.e. Q1 or Q2), two of which must be published or accepted for publication, while the others may be manuscripts in the review process, and the doctoral student must be the lead author of two of these. All articles must be related to the dissertation topic.</p> <p>In both dissertation formats, the articles accepted as part of the dissertation are those that include the Faculty of Science as the only or secondary institution of the author. Without such affiliation, an article cannot be included in a dissertation.</p> <p>Participation in professional conferences and the presentation of a contribution (poster and/or oral presentation) is a required component of the doctoral study program.</p> <p>A standard component of studies is a professional internship at a reputable foreign workplace at a duration of one month or more.</p>
Immunology (P1517)	full-time	<p>Study requirements for PhD students of Immunology 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 qualification which would make them competitive candidates for positions in research, teaching, and technologies internationally.</p> <p>Learning goal 1 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>

Study programme	Form of study	Requirements
		<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 <p>• Fluorescent microscopy in cell biology</p> <p>• Advances in molecular biology and genetics (Institute of Molecular Genetics of the ASCR, v. v. i.) 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. v. i.) 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/ (according to the 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-

Study programme	Form of study	Requirements
		<p>microscopy-in-life-sciences/ (according to the information for the current academic year)</p> <ul style="list-style-type: none"> • MB140C75E Fluorescence spectroscopy in biology <p>Learning goal 2</p> <p>Internships and visits in cooperating laboratories 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 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. Active participation in international conferences according to the focus and possibilities of the mentor's team is also recommended.</p> <p>Ph.D. exam The state doctoral exam is an important control point of the study, in addition to the annual ISP 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 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</p>

Study programme	Form of study	Requirements
		<p>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 date 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>
	combined	<p>Study requirements for PhD students of Immunology 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 qualification which would make them competitive candidates for positions in research, teaching, and technologies internationally.</p> <p>Learning goal 1</p>

Study programme	Form of study	Requirements
		<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 <p>• Fluorescent microscopy in cell biology</p> <p>• Advances in molecular biology and genetics (Institute of Molecular Genetics of the ASCR, v. v. i.) 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. v. i.) 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

Study programme	Form of study	Requirements
		<p>Genetics of the ASCR, v. v. i.) https://www.img.cas.cz/2013/06/15613-mikroskopicke-metody-v-biomedicine/ (according to the information for the current academic year)</p> <ul style="list-style-type: none"> • 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/ (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 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 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. Active participation in international conferences according to the focus and possibilities of the mentor's team is also recommended.</p> <p>Ph.D. exam The state doctoral exam is an important control point of the study, in addition to the annual ISP 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 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</p>

Study programme	Form of study	Requirements
		<p>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:</p> <p>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 date 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>
Inorganic chemistry (P1401)	full-time	The study requirements of doctoral students are defined by their individual study plans (ISP). Subjects of the study are chosen by agreement the supervisor and consultants in view

Study programme	Form of study	Requirements
		<p>of the topic of the particular doctoral project and previous studies and must include an internationally recognized foreign language examination (English is preferred - FCE). The number of specialized examinations prescribed by the ISP should not exceed five. Short training courses or workshops held in Czech Republic or abroad can also be included in the ISP.</p> <p>In addition, the students regularly report on the progress of their dissertation work during the departmental seminars. Basically, these presentations include information about presenting the dissertation project at the beginning of the study, presentation of preliminary results and a final presentation summarizing the results achieved, which must be delivered in English. An integral part of the doctoral study is participation in departmental teaching activities as instructed by the head of the department. The students also regularly attend seminars of the Department of Inorganic Chemistry and lectures falling into the invited lecture series Quo Vadis Chemie.</p> <p>The student can choose from two forms of the Ph.D. thesis -- full thesis and summary.</p> <p>The full thesis is a complete text containing introduction and defining of the aims of the doctoral project, discussion of the achieved results with summary, complete experimental part and list of literature references. The extent of such a thesis must correspond to three publications in international impacted journals at minimum. One published paper based on the results of the doctoral project must be published already before submitting the full thesis (a paper with assigned DOI is considered published in this case).</p> <p>Theses conceived as a summary of monothematic publications resulting from the doctoral project also contain an introduction, literature survey and definition of the project aims, achieved results and a summary but in a shortened form (approximately 30-40 pages). Such a thesis must be based on three or more scientific publications of the student published in international impacted journals. Even in this case, a paper with assigned DOI is considered published.</p> <p>No abbreviated summary of the thesis is required for submission along with the thesis. However, the student is required to submit an extended abstract (> 3000 characters excluding diagrams, figures and tables) in an electronic form (PDF). All scientific papers that serve as a basis for the PhD thesis must clearly declare student's affiliation to the Department of Inorganic Chemistry, Faculty of Science, Charles University. In the case of multi-author publications, the contribution of the student must be specified.</p>

Study programme	Form of study	Requirements
	combined	<p>The study requirements of doctoral students are defined by their individual study plans (ISP). Subjects of the study are chosen by agreement the supervisor and consultants in view of the topic of the particular doctoral project and previous studies and must include an internationally recognized foreign language examination (English is preferred - FCE, TOEFL). Maximum five prescribed specialized examinations must be included in the ISP. However, it is also possible to include into ISP short training courses or workshops held in Czech Republic or abroad.</p> <p>In addition, the students regularly report on the progress of their dissertation work during the departmental seminars. Basically, these presentations include information about presenting the dissertation project at the beginning of the study, presentation of preliminary results and a final presentation summarizing the results achieved, which must be delivered in English.</p> <p>An integral part of the doctoral study is participation in departmental teaching activities as instructed by the head of the department. The students also regularly attend seminars of the Department of Inorganic Chemistry and lectures falling into the invited lecture series Quo Vadis Chemie.</p> <p>The student can choose from two forms of the Ph.D. thesis -- full thesis and summary.</p> <p>The full thesis is a complete text containing introduction and defining of the aims of the doctoral project, discussion of the achieved results with summary, complete experimental part and list of literature references. The extent of such a thesis must correspond to three publications in international impacted journals at minimum. One published paper based on the results of the doctoral project must be published already before submitting the full thesis (a paper with assigned DOI is considered published in this case).</p> <p>Theses conceived as a summary of monothematic publications resulting from the doctoral project also contain an introduction, literature survey and definition of the project aims, achieved results and a summary but in a shortened form (approximately 30-40 pages). Such a thesis must be based on three or more scientific publications of the student published in international impacted journals. Even in this case, a paper with assigned DOI is considered published.</p> <p>No abbreviated summary of the thesis is required for submission along with the thesis. However, the student is required to submit an extended abstract (&gt; 3000 character) in an electronic form (PDF).</p> <p>Finally, all scientific papers that serve as a basis for the PhD thesis must clearly declare student's affiliation to the Department of Inorganic Chemistry, Faculty of Science, Charles University.</p>

Study programme	Form of study	Requirements
Macromolecular Chemistry (P1405)	full-time	<p>A part of individual study plan is passing at least of two specialized courses ending in an examination in subjects thematically related to the dissertation topic, where</p> <ul style="list-style-type: none"> • the doctoral student passes at least one examination by the end of the 1st year of study, • the doctoral student passes next examinations by the end of the second year of study. <p>Passing a certified English examination is required (a previously obtained certificate also suffices).</p> <p>To submit the dissertation for the defense, it is necessary for it to contain results already published or accepted for publication (with own DOI) in two impact journals.</p> <p>If the doctoral student has at least 3 related works already published or accepted for publication in journals with $IF > 1$, the dissertation work may be written in combined form of a short review, which contains at least: introduction, presenting of results and their discussion to the extent of cca 50 pages. The published articles are included as part of the dissertation. If the project results are subject to patent proceedings, it may be considered as a publication.</p> <p>During his/her studies, the doctoral student will prepare and submit at least one project application for a GA UK grant. The doctoral student must present the results of his/her project at at least two international conferences, including conferences taking place in the CR.</p> <p>At least once a year the student should present the progress of doctoral work and results achieved in English at department seminars or work groups.</p> <p>An internship abroad is highly recommended.</p>
	combined	<p>A part of individual study plan is passing at least of two specialized courses ending in an examination in subjects thematically related to the dissertation topic, where</p> <ul style="list-style-type: none"> • the doctoral student passes at least one examination by the end of the 1st year of study, • the doctoral student passes next examinations by the end of the second year of study. <p>Passing a certified English examination is required (a previously obtained certificate also suffices).</p> <p>To submit the dissertation for the defense, it is necessary for it to contain results already published or accepted for publication (with own DOI) in two impact journals.</p> <p>If the doctoral student has at least 3 related works already published or accepted for publication in journals with $IF > 1$, the dissertation work may be written in combined form of a short review, which contains at least: introduction, presenting of results and their discussion to the extent of cca 50 pages. The published articles are included as part of the dissertation. If the project results are subject to patent proceedings, it may be considered as a publication.</p> <p>During his/her studies, the doctoral student will prepare and submit at least one project application for a GA UK grant. The doctoral student must present the results of his/her project</p>

Study programme	Form of study	Requirements
		<p>at least two international conferences, including conferences taking place in the CR. At least once a year the student should present the progress of doctoral work and results achieved in English at department seminars or work groups. An internship abroad is highly recommended.</p>
Microbiology (P1510)	full-time	<p>Study subjects. Mandatory for all students: a) two-week course, Advances in Molecular Biology, organized by doc. MUDr. J. Jonák, CSc., ÚMG AV ČR and b) one-day seminar, Advances in Microbiology, organized by MBÚ AV ČR and RNDr. J. Gabriel, DrSc.</p> <p>Additional study obligations include two subjects which expand the theoretical education of the doctoral student in the necessary direction, depending on the type of master's education and dissertation topic.</p> <p>Doctoral students are also required to pass external English language examinations such as FCE, CAE or TOEFL, or an examination passed at ÚJOP.</p> <p>In the 2nd and 4th year of study it is obligatory for students to participate in the conference of PhD students and present there the results in English.</p> <p>Students may submit their thesis as a full dissertation work, or abbreviated type of it.</p> <p>A) Full dissertation work. This form of doctoral work to obtain the title of PhD in the field of microbiology has the classic structure of chapters (Contents, Introduction (with formulation of goals), Literary Overview, Materials and Methods, Results, Discussion, Summary, Literature Used, List of Abbreviations); generally around 100 pages in length. The dissertation work must contain original published results or results accepted for publication. The doctoral student is the author of at least two publications in IF journals and is the lead author in one of these.</p> <p>B) Abbreviated dissertation form - requirements: The doctoral student is the author of at least three publications in journals with IF and is the lead author of all of these, or is the author of five publications in journals with IF and is the lead author of at least two of these. Papers accepted for publication are acceptable.</p> <p>Students who started their study in 2015/2016 and later: The doctoral student is the author of at least three publications in journals with IF and is the lead author of two of these.</p> <p>Structure of the abbreviated form: 1. Aims of the Thesis (1-2 pages) 2. Introduction (30-50 pages) 3. Introduction to individual papers (1 page) 4. Discussion (5-10 pages) 5. References</p> <p>The student should complete an internship abroad at a workplace engaged in similar activity; and actively participate in scientific conferences, congresses and conventions,</p>

Study programme	Form of study	Requirements
		<p>presenting the results of the dissertation work in the form of a poster or lecture prepared in cooperation with the supervisor. If it is not possible to ensure the intership abroad, it is not obligatory for students</p>
	combined	<p>Study subjects. Mandatory for all students: a) two-week course, Advances in Molecular Biology, organized by doc. MUDr. J. Jonák, CSc., ÚMG AV ČR and b) one-day seminar, Advances in Microbiology, organized by MBÚ AV ČR and RNDr. J. Gabriel, DrSc.</p> <p>Additional study obligations include two subjects which expand the theoretical education of the doctoral student in the necessary direction, depending on the type of master's education and dissertation topic.</p> <p>Doctoral students are also required to pass external English language examinations such as FCE, CAE or TOEFL, or an examination passed at ÚJOP.</p> <p>In the 2nd and 4th year of study it is obligatory for students to participate in the conference of PhD students and present there the results in English.</p> <p>Students may submit their thesis as a full disseration work, or abbreviated type of it.</p> <p>A) Full dissertation work. This form of doctoral work to obtain the title of PhD in the field of microbiology has the classic structure of chapters (Contents, Introduction (with formulation of goals), Literary Overview, Materials and Methods, Results, Discussion, Summary, Literature Used, List of Abbreviations); generally around 100 pages in length. The dissertation work must contain original published results or results accepted for publication. The doctoral student is the author of at least two publications in IF journals and is the lead author in one of these.</p> <p>B) Abbreviated dissertation form - requirements: The doctoral student is the author of at least three publications in journals with IF and is the lead author of all of these, or is the author of five publications in journals with IF and is the lead author of at least two of these. Papers accepted for publication are acceptable.</p> <p>Students who started their study in 2015/2016 and later: The doctoral student is the author of at least three publications in journals with IF and is the lead author of two of these.</p> <p>Structure of the abbreviated form:</p> <ol style="list-style-type: none"> 1. Aims of the Thesis (1-2 pages) 2. Introduction (30-50 pages) 3. Introduction to individual papers (1 page) 4. Discussion (5-10 pages) 5. References <p>The student should complete an internship abroad at a workplace engaged in similar activity; and actively participate in scientific conferences, congresses and conventions, presenting the results of the dissertation work in the form of a poster or lecture prepared in cooperation with the supervisor. If</p>

Study programme	Form of study	Requirements
Modeling of Chemical Properties of Nano- and Biostructures (P1415)	full-time	<p>it is not possible to ensure the internship abroad, it is not obligatory for students</p>
		<p>The study requirements for doctoral students:</p> <ul style="list-style-type: none"> * 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>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 four 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>

Study programme	Form of study	Requirements
	combined	<p>The study requirements for doctoral students:</p> <ul style="list-style-type: none"> * 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>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 four 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>
Molecular and Cell Biology, Genetics	full-time	1) Completion of at least one lecture/course related to the topic of the doctoral thesis and selected from the lists of subjects

Study programme	Form of study	Requirements
and Virology (P1519)		<p>taught by the Faculty of Science, the First, the Second or the Third Faculty of Medicine, Charles University (the selection is made by the doctoral student together with his/her supervisor). The lecture/course has to be successfully completed during the second year of the doctoral study at the latest. Its completion is a necessary condition before submitting an application for the State Doctoral Examination (SDE). The Board of the Programme strongly recommends completion at least two such lectures/courses.</p> <p>2) Successful completion of the SDE during the third year of the doctoral study at the latest. The SDE consists of 3 subject areas (Molecular biology is obligatory, the student then can choose between Cell biology, Genetics or Virology, and the third subject is selected completely by the student and must be related to the topic of the doctoral thesis).</p> <p>3) An internship abroad during the doctoral study is recommended. However, the decision on the inclusion of such internship into the Individual Curriculum rests mainly with the supervisor and depends on the options and resources of the supervising laboratory.</p> <p>4) The core of the doctoral study is an original, high-quality research independently carried out by the student. This is a necessary condition for the successful defence of the doctoral thesis.</p> <p>5) With the exception stated in the section 7 (see below), the doctoral thesis must consist of the following sections and comply with these rules: Title page (the name of the university and faculty, the study programme, the supervising laboratory, the title of the thesis, the name and surname of its author and his/her supervisor, the place and the year of the thesis submission), Signed declaration of the author (according to the university/faculty rules), Contents, Abstract (in Czech and English), List of Abbreviations, Introduction and Literary Overview (at least 20 standard pages), Aims of the Thesis, Material and Methods, Results, Discussion (at least 10 standard pages), Summary and Conclusions, Reference List. The thesis should be written either in Czech or in English (other languages must be first approved by the Board of the Programme).</p> <p>6) In case the student proves his/her ability to perform independent research and obtains exceptionally high-quality results, it is possible to submit the doctoral thesis without publications in peer-reviewed journals with an impact factor. However, this is allowed only after the agreement of both the supervisor and the Chair of the Board of the Programme and only till the end of the fourth year of the doctoral study. Prior to such submission, the student must ensure that the results presented in the doctoral thesis are suitably published</p>

Study programme	Form of study	Requirements
		<p>according to the Section 4, Paragraph 4 of the Higher Education Act No. 111/1998 Coll. (amended and consolidated). One possibility of such publication is the preprint server https://www.biorxiv.org/. From the fifth year of the study onwards, the doctoral thesis must be supported by at least three publications relevant to its topic and published in peer-reviewed journals with an impact factor. In this case, at least one of these publications must have the student as the first author, must be an original full-length research paper and must be published in a journal with an impact factor at least 2.0; regarding the other two required publications, the student can be their co- author.</p> <p>7) The abbreviated form of the doctoral thesis can be submitted only to the end of the fourth year of the study. Such thesis must be based on at least one original full-length research paper with the student as the first author, published in a peer-reviewed journal with an impact factor at least 8.0. Besides this condition, the abbreviated form of the doctoral thesis must contain the same sections and comply with the same rules as these stated in the section 5 (see above) with the exception of the Material and Methods section (this can be omitted) and the Results section. The description of the results can be replaced by a short (at least 2 standard pages) explanatory text (in case more than one publication is supplied as the part of the thesis, this text must emphasise the related nature of these publications). The respective publication(s) must follow this explanatory text with continuous pagination.</p> <p>8) In case the required publication(s) was/were only accepted for publication at the time of the submission of the doctoral thesis, the student must supply a confirmation of this acceptance from the respective journal.</p> <p>9) The Board of the Programme does not require a separate „Summary of the Ph.D. Thesis“.</p> <p>10) Students are strongly advised to contact The Chair of the Board of the Programme for any further explanations and clarifications of the above-listed rules and requirements, should they be necessary.</p>
	combined	<p>1) Completion of at least one lecture/course related to the topic of the 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 (the selection is made by the doctoral student together with his/her supervisor). The lecture/course has to be successfully completed during the second year of the doctoral study at the latest. Its completion is a necessary condition before submitting an application for the State Doctoral Examination (SDE). The Board of the Programme strongly recommends completion at least two such lectures/courses.</p>

Study programme	Form of study	Requirements
		<p>2) Successful completion of the SDE during the third year of the doctoral study at the latest. The SDE consists of 3 subject areas (Molecular biology is obligatory, the student then can choose between Cell biology, Genetics or Virology, and the third subject is selected completely by the student and must be related to the topic of the doctoral thesis).</p> <p>3) An internship abroad during the doctoral study is recommended. However, the decision on the inclusion of such internship into the Individual Curriculum rests mainly with the supervisor and depends on the options and resources of the supervising laboratory.</p> <p>4) The core of the doctoral study is an original, high-quality research independently carried out by the student. This is a necessary condition for the successful defence of the doctoral thesis.</p> <p>5) With the exception stated in the section 7 (see below), the doctoral thesis must consist of the following sections and comply with these rules: Title page (the name of the university and faculty, the study programme, the supervising laboratory, the title of the thesis, the name and surname of its author and his/her supervisor, the place and the year of the thesis submission), Signed declaration of the author (according to the university/faculty rules), Contents, Abstract (in Czech and English), List of Abbreviations, Introduction and Literary Overview (at least 20 standard pages), Aims of the Thesis, Material and Methods, Results, Discussion (at least 10 standard pages), Summary and Conclusions, Reference List. The thesis should be written either in Czech or in English (other languages must be first approved by the Board of the Programme).</p> <p>6) In case the student proves his/her ability to perform independent research and obtains exceptionally high-quality results, it is possible to submit the doctoral thesis without publications in peer-reviewed journals with an impact factor. However, this is allowed only after the agreement of both the supervisor and the Chair of the Board of the Programme and only till the end of the fourth year of the doctoral study. Prior to such submission, the student must ensure that the results presented in the doctoral thesis are suitably published according to the Section 4, Paragraph 4 of the Higher Education Act No. 111/1998 Coll. (amended and consolidated). One possibility of such publication is the preprint server https://www.biorxiv.org/. From the fifth year of the study onwards, the doctoral thesis must be supported by at least three publications relevant to its topic and published in peer-reviewed journals with an impact factor. In this case, at least one of these publications must have the student as the first author, must be an original full-length research paper and must be published in a journal with an impact factor at least 2.0;</p>

Study programme	Form of study	Requirements
		<p>regarding the other two required publications, the student can be their co- author.</p> <p>7) The abbreviated form of the doctoral thesis can be submitted only to the end of the fourth year of the study. Such thesis must be based on at least one original full-length research paper with the student as the first author, published in a peer-reviewed journal with an impact factor at least 8.0. Besides this condition, the abbreviated form of the doctoral thesis must contain the same sections and comply with the same rules as these stated in the section 5 (see above) with the exception of the Material and Methods section (this can be omitted) and the Results section. The description of the results can be replaced by a short (at least 2 standard pages) explanatory text (in case more than one publication is supplied as the part of the thesis, this text must emphasise the related nature of these publications). The respective publication(s) must follow this explanatory text with continuous pagination.</p> <p>8) In case the required publication(s) was/were only accepted for publication at the time of the submission of the doctoral thesis, the student must supply a confirmation of this acceptance from the respective journal.</p> <p>9) The Board of the Programme does not require a separate „Summary of the Ph.D. Thesis“.</p> <p>10) Students are strongly advised to contact The Chair of the Board of the Programme for any further explanations and clarifications of the above-listed rules and requirements, should they be necessary.</p>
Organic Chemistry (P1402)	full-time	<p>Requirements for individual study plan: Pass a certified examination in English (e.g. FCE, TOEFL) before submitting the application for the state doctoral examination. 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. 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. Full-time doctoral students take part in the teaching activities of the faculty, e.g. by leading exercises, seminars, labs, etc. Requirements for publication activity of doctorands: 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</p>

Study programme	Form of study	Requirements
		<p>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>
	combined	<p>Requirements for individual study plan: Pass a certified examination in English (e.g. FCE, TOEFL) before submitting the application for the state doctoral examination. 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. 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. Full-time doctoral students take part in the teaching activities of the faculty, e.g. by leading exercises, seminars, labs, etc. Requirements for publication activity of doctorands: 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). 2) Active participation at least once (verbal presentation or poster) at a conference with international participation. 3) At the appointed time submit the complete doctoral dissertation (not a set of publications with brief commentary).</p>
Parasitology (P1522)	full-time	<p>Within the ISP, it is necessary to successfully pass at least four subjects (for the doctoral study, the lecture and the related practical course are considered as a single duty). 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 PhD students and must be completed by the end of the third year at the latest. For master students graduated in fields other than</p>

Study programme	Form of study	Requirements
		<p>parasitology, in addition to MB160P31, the following subjects are required: (i) "Základy parazitologie" (Foundations of Parasitology) (MB160P25) including practical courses (Cvičení ze základů parazitologie; MB160C25); this course (MB160P25+MB160C25) may be replaced by Parasitology (MB160P66+MB160C25), it must be completed (MB160P25+MB160C25 or MB160P66+MB160C25) 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/MB160C28 or "Lékařská entomologie" (Medical entomology) MB160P26/MB160C26. (Certified examination in English is requested for Czech and Slovak students; the exam must be completed no later than by the end of the fourth year. This obligation may be compensated by one or more stays in an English-speaking laboratory for a total period of at least three months or a successful completion of at least one semester taught in English at a foreign university (e.g., ERASMUS).)</p> <p>The State Doctoral Examination must be completed by the end of the third year, unless the Ph.D. board decides otherwise. 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, at 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. Students do not have an obligation to participate actively in teaching (e.g., help with practical courses), but involvement in this activity can be positively taken into account in the overall assessment. 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 (about 3 pages; submitted by the end of November 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 second or third year study (a comprehensive lecture about 30 minutes followed by a discussion).</p> <p>The core of 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 an 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</p>

Study programme	Form of study	Requirements
		<p>wider context of the topic. The introduction should demonstrate deeper insight of the doctoral student, present a critical assessment of the scientific problem and manners of resolving it, and establish the scientific questions and objectives of the submitted work. The thesis must contain a final chapter summarizing the main results of individual publications, their context and specifying the student's own contribution to solving the problem. Before the introductory chapter, 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 PhD student must be the first (lead) author of at least one of these published/accepted papers. 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 be related to the topic of the dissertation thesis.</p> <p>The thesis is submitted in four hard copies (one at the study department and three at the secretariat of the department). Along with the thesis, an English-written "Summary of the Ph.D. Thesis" (containing the basic theses of the doctoral thesis and the professional curriculum vitae of the applicant) is required in ten hard copies.</p>
	combined	<p>Within the ISP, it is necessary to successfully pass at least four subjects (for the doctoral study, the lecture and the related practical course are considered as a single duty). 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 PhD 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; MB160C25); this course (MB160P25+MB160C25) may be replaced by Parasitology (MB160P66+MB160C25), it must be completed (MB160P25+MB160C25 or MB160P66+MB160C25) 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/MB160C28 or "Lékařská entomologie" (Medical entomology) MB160P26/MB160C26. (Certified examination in English is requested for Czech and Slovak students; the exam must be completed no later than by the end of the fourth year. This obligation may be compensated by one or more stays in an English-speaking laboratory for a total period of at least three months or a successful completion of at least one semester taught in</p>

Study programme	Form of study	Requirements
		<p>English at a foreign university (e.g., ERASMUS.)</p> <p>The State Doctoral Examination must be completed by the end of the third year, unless the Ph.D. board decides otherwise.</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, at 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), but involvement in this activity can be positively taken into account in the overall assessment. 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 (about 3 pages; submitted by the end of November 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 second or third year study (a comprehensive lecture about 30 minutes followed by a discussion).</p> <p>The core of 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 an 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 doctoral student, present a critical assessment of the scientific problem and manners of resolving it, and establish the scientific questions and objectives of the submitted work. The thesis must contain a final chapter summarizing the main results of individual publications, their context and specifying the student's own contribution to solving the problem. Before the introductory chapter, one-page summary / abstract must be included in Czech and English.</p> <p>The thesis includes at least two published or accepted scientific works/papers in international journals (with IF). The PhD student must be the first (lead) author of at least one of these published/accepted papers. 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 be related to the topic of the dissertation thesis.</p> <p>The thesis is submitted in four hard copies (one at the study department and three at the secretariat of the department). Along with the thesis, an English-written "Summary of the</p>

Study programme	Form of study	Requirements
Philosophy and History of Science (P6144)		Ph.D. Thesis" (containing the basic theses of the doctoral thesis and the professional curriculum vitae of the applicant) is required in ten hard copies.
	full-time	<p>Exams in two to four subjects, to be decided by the supervisor, are to be part of the ISP (Individual Student Plan).</p> <p>The typical form of dissertation thesis in the field is that of a single study (monograph) – at least one paper, of which the PhD student is the first author, has to be included either as part of the thesis or as an appendix.</p> <p>Cumulative dissertations are rather uncommon in this field and the adequacy of such a format is to be decided by the Subject-area Board (Oborová rada). Such a dissertation then has to include an introduction, a critical evaluation of the scientific problem, a definition of research questions, of the method of their treatment and a summary of the main results achieved in the individual papers and of their mutual connections. A cumulative dissertation has to include at least three papers published in peer-reviewed academic journals, at least two of which have to be already published or in print, the rest can be just submitted. The PhD candidate has to be the first author in at least two of them. All the papers have to be related to the subject of the thesis.</p> <p>The thesis supervisor can decide to include the obligation of passing an exam in a modern or dead language in the Individual Student Plan, if he deems it useful for the successful writing of the thesis.</p> <p>The students are not required to lecture or lead seminars, however any such activity is taken into account during their overall evaluation.</p>
	combined	<p>Exams in two to four subjects, to be decided by the supervisor, are to be part of the ISP (Individual Student Plan).</p> <p>The typical form of dissertation thesis in the field is that of a single study (monograph) – at least one paper, of which the PhD student is the first author, has to be included either as part of the thesis or as an appendix.</p> <p>Cumulative dissertations are rather uncommon in this field and the adequacy of such a format is to be decided by the Subject-area Board (Oborová rada). Such a dissertation then has to include an introduction, a critical evaluation of the scientific problem, a definition of research questions, of the method of their treatment and a summary of the main results achieved in the individual papers and of their mutual connections. A cumulative dissertation has to include at least three papers published in peer-reviewed academic journals, at least two of which have to be already published or in print, the rest can be just submitted. The PhD candidate has to be the first author in</p>

Study programme	Form of study	Requirements
		<p>at least two of them. All the papers have to be related to the subject of the thesis.</p> <p>The thesis supervisor can decide to include the obligation of passing an exam in a modern or dead language in the Individual Student Plan, if he deems it useful for the successful writing of the thesis.</p> <p>The students are not required to lecture or lead seminars, however any such activity is taken into account during their overall evaluation.</p>
Physical Geography and Geoecology (P1306)	full-time	<p>The study plan contains the mandatory subjects of General and Regional Physical Geography (exam) and the Doctoral Colloquium (grade), as well as 2-3 elective specialized subjects (exam), at least one of which must be taken outside CU FS. All subjects are scheduled in the first two years of study. The ISP further contains the state doctoral examination (SDE), planned no later than up to the 3rd year.</p> <p>Dissertation work contains original and published results or results accepted for publication. Requirements for the entire publication activity of the doctoral student during studies (at the time the dissertation is submitted) at least 1 article in a journal with an IF and 3 additional publications in the WoS/SCOPUS databases, where the doctoral student must be listed at the lead author for at least 2 of these.</p> <p>The total minimum number of original scientific works (articles in scientific journals, chapters in monographs) is 5. In 3 of these the student must be listed as the lead author</p> <p>In the event an article has not yet been published, the author must submit confirmation from the editors that it has been accepted for publication</p> <p>Full-time doctoral students generally help with instruction under the supervision of their supervisor, as needed and in close cooperation with the department head; however, there are no set teaching obligations. The doctoral student may be a supervisor and reader of undergraduate work and a consultant for master's work.</p> <p>An internship abroad is common. The international mobility is an integral part of Individual Study Plan of each PhD student, the length and character of the internship depends on the individual needs of each dissertation.</p> <p>Participation in conferences is an integral component of scientific education, however, there is no set number of obligatory conferences.</p> <p>Full-time doctoral students assist the training workplace with undergraduate and master's defenses and state examinations, conferences, workshops and presentations organized by the training workplace.</p>

Study programme	Form of study	Requirements
	combined	<p>The study plan contains the mandatory subjects of General and Regional Physical Geography (exam) and the Doctoral Colloquium (grade), as well as 2-3 elective specialized subjects (exam), at least one of which must be taken outside CU FS. All subjects are scheduled in the first two years of study. The ISP further contains the state doctoral examination (SDE), planned no later than up to the 3rd year.</p> <p>Dissertation work contains original and published results or results accepted for publication. Requirements for the entire publication activity of the doctoral student during studies (at the time the dissertation is submitted) at least 1 article in a journal with an IF and 3 additional publications in the WoS/SCOPUS databases, where the doctoral student must be listed at the lead author for at least 2 of these.</p> <p>The total minimum number of original scientific works (articles in scientific journals, chapters in monographs) is 5. In 3 of these the student must be listed as the lead author</p> <p>In the event an article has not yet been published, the author must submit confirmation from the editors that it has been accepted for publication</p> <p>Full-time doctoral students generally help with instruction under the supervision of their supervisor, as needed and in close cooperation with the department head; however, there are no set teaching obligations. The doctoral student may be a supervisor and reader of undergraduate work and a consultant for master's work.</p> <p>An internship abroad is common. The international mobility is an integral part of Individual Study Plan of each PhD student, the length and character of the internship depends on the individual needs of each dissertation.</p> <p>Participation in conferences is an integral component of scientific education, however, there is no set number of obligatory conferences.</p> <p>Full-time doctoral students assist the training workplace with undergraduate and master's defenses and state examinations, conferences, workshops and presentations organized by the training workplace.</p>
Physical Chemistry (P1404)	full-time	<p>Integral part of individual study plan is passing at least two specialized courses ending in an examination in subjects thematically related to the dissertation topic, where</p> <ul style="list-style-type: none"> - the doctoral student passes at least one examination by the end of the first year of study, - the doctoral student passes the second and third examination (if planned) by the end of the second year of study. <p>Passing a certified English examination is requested (a previously obtained certificate also suffices).</p> <p>To submit the dissertation for the defense, it is necessary for it</p>

Study programme	Form of study	Requirements
		<p>to contain results already published or accepted for publication in two impact journals. If a doctoral student has at least 4 related works already published or accepted for publication in journals with IF, the dissertation work may be written in combined form, where the introduction presents the project in the context of current knowledge in the given field, characterizes strategies for approaching the project, provides a review with general conclusions, and presents the results obtained in the published articles, which are included as part of the dissertation.</p> <p>If the project results are subject to patent proceedings, this requirement may be relaxed or even dropped, but only if the patent application has already been filed and accepted for patent proceedings. If this is not the case, impact publications of a doctoral student (planning on submitting a patent application) may be taken into account, even for topics differing from the dissertation.</p> <p>The doctoral student must present the results of his/her project at at least two international conferences, including conferences taking place in the CR.</p> <p>At least once a year the students present the progress of doctoral work and results achieved in English at department seminars or work groups.</p> <p>An internship abroad is highly recommended.</p>
	combined	<p>Integral part of individual study plan is passing at least two specialized courses ending in an examination in subjects thematically related to the dissertation topic, where</p> <ul style="list-style-type: none"> - the doctoral student passes at least one examination by the end of the first year of study, - the doctoral student passes the second and third examination (if planned) by the end of the second year of study. <p>Passing a certified English examination is requested (a previously obtained certificate also suffices).</p> <p>To submit the dissertation for the defense, it is necessary for it to contain results already published or accepted for publication in two impact journals. If a doctoral student has at least 4 related works already published or accepted for publication in journals with IF, the dissertation work may be written in combined form, where the introduction presents the project in the context of current knowledge in the given field, characterizes strategies for approaching the project, provides a review with general conclusions, and presents the results obtained in the published articles, which are included as part of the dissertation.</p> <p>If the project results are subject to patent proceedings, this requirement may be relaxed or even dropped, but only if the</p>

Study programme	Form of study	Requirements
		<p>patent application has already been filed and accepted for patent proceedings. If this is not the case, impact publications of a doctoral student (planning on submitting a patent application) may be taken into account, even for topics differing from the dissertation.</p> <p>The doctoral student must present the results of his/her project at at least two international conferences, including conferences taking place in the CR.</p> <p>At least once a year the students present the progress of doctoral work and results achieved in English at department seminars or work groups.</p> <p>An internship abroad is highly recommended.</p>
Plant Anatomy and Physiology (P1524)	full-time	<p>The study requirements are individual, it depends also on previous type of study. In the case of students who have earned the title of Mgr./Ing. at other universities, a more extensive study plan is expected to round out/tie together their knowledge.</p> <p>A part of ISP is also a detailed plan for experimental work during the 1st year of study, which will be submitted to OR. It is recommended to use the scope and structure of a GAUK project (Charles University Grant Agency project). This can be a grant proposal or part of a grant proposal. The document should be 2 (max. 3) pages (this length does not include the list of cited literature), it should have a half page introduction to the subject matter, objectives and hypotheses, manner of approach (procedure, methodology) and a detailed plan for the 1st year of work.</p> <p>Any foreign language exam is not required.</p> <p>Study generally includes an internship abroad.</p> <p>Requirements for classic form of dissertation work: in the form of a comprehensive manuscript (or scientific monograph): 1 work published or accepted for publication in a journal with an impact factor (IF) related to the dissertation topic.</p> <p>Requirements for work in the form of a set of scientific articles or chapters in monographs (set is accompanied by commentary):</p> <ul style="list-style-type: none"> • 3 publications (accepted or published), where the doctoral student is the lead author of at least two, and 2 are original scientific work • 1 publication (not a review) in a journal with IF ≥ 1 (approximately the median in the field), where the student is the lead author • 2 publications: original work in a journal with IF, review in journal with IF, or chapter in foreign monograph

Study programme	Form of study	Requirements
		<p>In case of a major publication with IF ≥ 5, where the doctoral student is the lead author, it is possible to have only 2 articles published or accepted for publication and the rest in the form of a manuscript for submission.</p> <p>The study requirements are individual, it depends also on previous type of study. In the case of students who have earned the title of Mgr./Ing. at other universities, a more extensive study plan is expected to round out/tie together their knowledge.</p> <p>A part of ISP is also a detailed plan for experimental work during the 1st year of study, which will be submitted to OR. It is recommended to use the scope and structure of a GAUK project (Charles University Grant Agency project). This can be a grant proposal or part of a grant proposal. The document should be 2 (max. 3) pages (this length does not include the list of cited literature), it should have a half page introduction to the subject matter, objectives and hypotheses, manner of approach (procedure, methodology) and a detailed plan for the 1st year of work.</p> <p>Any foreign language exam is not required.</p> <p>Study generally includes an internship abroad.</p> <p>Requirements for classic form of dissertation work: in the form of a comprehensive manuscript (or scientific monograph): 1 work published or accepted for publication in a journal with an impact factor (IF) related to the dissertation topic.</p> <p>Requirements for work in the form of a set of scientific articles or chapters in monographs (set is accompanied by commentary):</p> <ul style="list-style-type: none"> • 3 publications (accepted or published), where the doctoral student is the lead author of at least two, and 2 are original scientific work • 1 publication (not a review) in a journal with IF ≥ 1 (approximately the median in the field), where the student is the lead author • 2 publications: original work in a journal with IF, review in journal with IF, or chapter in foreign monograph <p>In case of a major publication with IF ≥ 5, where the doctoral student is the lead author, it is possible to have only 2 articles published or accepted for publication and the rest in the form of a manuscript for submission.</p>
Regional and Political Geography (P1308)	full-time	<p>Every PhD candidate has to take the course General Colloquium (RPG) (MPG0118) in the first year of study, by the end of the second year the latest. Then the student needs to choose between Theory of Regional Geography for PGS (MPGS0098) and Theory of Political Geography for PGS (MPGS0099). The student has to take at least two or three</p>

Study programme	Form of study	Requirements
		<p>other exams in subjects related to their dissertation topic. The subjects are selected together with the student's supervisor. As a rule, the examiner is not the supervisor. At least two of these exams have to be passed before the end of the first year of study, the rest by the end of the second year. One of the exams shall be passed outside the Faculty of Science, Charles University. By the end of the second year of study, the student needs to pass theoretical-methodological discussion (RPG) (MPGS0123). The text is submitted electronically to the supervisor. The submission is followed by a discussion that prepares the student for their state doctoral examination (MSZX003). The state doctoral exam has to be by the end of the second year of study.</p> <p>Starting with the third year of study, the student has to present work on their presentation annually. Such presentation takes place during a doctoral seminar or during a committee set by the subject-area board.</p> <p>Before the defence of the dissertation, the student needs to publish at least two papers in peer-reviewed scientific journals. At least one of the journals must have the impact factor. One paper can be substituted by a chapter in a peer-reviewed scientific book. If appropriate (e.g. due to the topic of the dissertation), the subject-area board can allow publishing in journals from the WoS/Scopus database instead of journals with the impact factor. If the paper is not published yet, the student shall provide a confirmation of acceptance by a journal's editorial board. The papers must be related to the topic of the dissertation. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Dissertation in the form of a set of publications on the same topic: minimum are four scientific papers in peer-reviewed scientific journals (at least one of them must have the impact factor). It is possible to include chapters from peer-reviewed scientific books. All the papers must form a logical, thematically unified set. They must be complemented by an introductory chapter and by a conclusion. The introduction must be a fundamental text capturing the essence of the student's research activities. The conclusion should include the key findings and possibilities of further research and its key issues. The number of at least four papers in the dissertation is not crucial, what is crucial is their quality and logical interconnectedness proving scientific abilities of the student. If the papers have more authors, there needs to be a specification of the student's contribution. The contribution is specified by a first author, a team manager, a supervisor, etc. At least one of the papers must be published solely by the student (100% authorship) and at least one of the other papers must have the student as the first author. Only papers affiliated to the Faculty of Science, Charles University are accepted. Normally, the first paper shall be submitted for a review by the end of the second year of study. The second paper shall be submitted by the end of the third year of study. By the end of the third year, the student should have one peer-reviewed</p>

Study programme	Form of study	Requirements
		<p>publication accepted. By the end of the fourth year, the second paper should be accepted.</p> <p>The student takes part in pedagogical activities of their supervisor or those provided by their department. The student takes part in lectures, seminars, excursions, life-long learning programmes, etc. Pedagogical activities are related to the student's dissertation and the exact form is determined by the supervisor. By the end of the third year of study, the student has usually taught at least one semester two hours per week. The student supervises bachelor theses and can also assist their supervisor in supervision of master theses. At the beginning of every academic year, the student has to insert 2-3 topics of potential (bachelor) theses in SIS. The supervisor is normally added as a consultant. The student takes part in the seminar for master students.</p> <p>The students needs to do an internship (study or research stay) abroad that is related to their dissertation. It should last at least one month. Foreign mobility is an integral part of doctoral studies.</p> <p>The student takes part in department's activities as much as possible. The information about activities and events is usually distributed via e-mail.</p> <p>Since the beginning of the studies, the student works closely with their supervisor on research. The student participates in the projects realised by their research team. Starting with the first year of study, the student usually applies for their own grant – e.g. GAUK.</p> <p>By the end of the second year, the student should actively participate in a conference abroad.</p> <p>Publication activities of the student are recorded in OBD of the Faculty of Science. Study and research stays are recorded in SIS in the application Internships.</p>
	combined	<p>Every PhD candidate has to take the course General Colloquium (MPG0119) in the first year of study, by the end of the second year the latest. Then the student needs to choose between Theory of Social Geography for PGS (MPGS0088) and Theory of regional development for PGS (MPGS0089). The student has to take at least two or three other exams in subjects related to their dissertation topic. The subjects are selected together with the student's supervisor. As a rule, the examiner is not the supervisor. At least two of these exams have to be passed before the end of the first year of study, the rest by the end of the second year. One of the exams shall be passed outside the Faculty of Science, Charles University. By the end of the second year of study, the student needs to pass theoretical-methodological discussion (OOG) (MPGS0122). The text is submitted electronically to the supervisor. The submission is followed by a discussion that prepares the student for their state doctoral examination (MSZX010). The state doctoral exam has to be by the end of the second year of study.</p> <p>Starting with the third year of study, the student has to present work on their presentation annually. Such presentation takes</p>

Study programme	Form of study	Requirements
		<p>place during a doctoral seminar or during a committee set by the subject-area board.</p> <p>Before the defence of the dissertation, the student needs to publish at least to papers in peer-reviewed scientific journals. At least one of the journals must have the impact factor. One paper can be substituted by a chapter in a peer-reviewed scientific book. If appropriate (e.g. due to the topic of the dissertation), the subject-area board can allow publishing in journals from the WoS/Scopus database instead of journals with the impact factor. If the paper is not published yet, the student shall provide a confirmation of acceptance by a journal's editorial board. The papers must be related to the topic of the dissertation. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Dissertation in the form of a set of publications on the same topic: minimum are four scientific papers in peer-reviewed scientific journals (at least one of them must have the impact factor). It is possible to include chapters from peer-reviewed scientific books. All the papers must form a logical, thematically unified set. They must be complemented by an introductory chapter and by a conclusion. The introduction must be a fundamental text capturing the essence of the student's research activities. The conclusion should include the key findings and possibilities of further research and its key issues. The number of at least four papers in the dissertation is not crucial, what is crucial is their quality and logical interconnectedness proving scientific abilities of the student. If the papers have more authors, there needs to be a specification of the student's contribution. The contribution is specified by a first author, a team manager, a supervisor, etc. At least one of the papers must be published solely by the student (100% authorship) and at least one of the other papers must have the student as the first author. Only papers affiliated to the Faculty of Science, Charles University are accepted. Normally, the first paper shall be submitted for a review by the end of the second year of study. The second paper shall be submitted by the end of the third year of study. By the end of the third year, the student should have one peer-reviewed publication accepted. By the end of the fourth year, the second paper should be accepted.</p> <p>Every PhD candidate has to take the course General Colloquium (RPG) (MPG0118) in the first year of study, by the end of the second year the latest. Then the student needs to choose between Theory of Regional Geography for PGS (MPGS0098) and Theory of Political Geography for PGS (MPGS0099). The student has to take at least two or three other exams in subjects related to their dissertation topic. The subjects are selected together with the student's supervisor. As a rule, the examiner is not the supervisor. At least two of these exams have to be passed before the end of the first year of study, the rest by the end of the second year. One of the exams shall be passed outside the Faculty of Science, Charles University. By the end of the second year of study, the student</p>

Study programme	Form of study	Requirements
		<p>needs to pass theoretical-methodological discussion (RPG) (MPGS0123). The text is submitted electronically to the supervisor. The submission is followed by a discussion that prepares the student for their state doctoral examination (MSZX003). The state doctoral exam has to be by the end of the second year of study.</p> <p>Starting with the third year of study, the student has to present work on their presentation annually. Such presentation takes place during a doctoral seminar or during a committee set by the subject-area board.</p> <p>Before the defence of the dissertation, the student needs to publish at least to papers in peer-reviewed scientific journals. At least one of the journals must have the impact factor. One paper can be substituted by a chapter in a peer-reviewed scientific book. If appropriate (e.g. due to the topic of the dissertation), the subject-area board can allow publishing in journals from the WoS/Scopus database instead of journals with the impact factor. If the paper is not published yet, the student shall provide a confirmation of acceptance by a journal's editorial board. The papers must be related to the topic of the dissertation. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Dissertation in the form of a set of publications on the same topic: minimum are four scientific papers in peer-reviewed scientific journals (at least one of them must have the impact factor). It is possible to include chapters from peer-reviewed scientific books. All the papers must form a logical, thematically unified set. They must be complemented by an introductory chapter and by a conclusion. The introduction must be a fundamental text capturing the essence of the student's research activities. The conclusion should include the key findings and possibilities of further research and its key issues. The number of at least four papers in the dissertation is not crucial, what is crucial is their quality and logical interconnectedness proving scientific abilities of the student. If the papers have more authors, there needs to be a specification of the student's contribution. The contribution is specified by a first author, a team manager, a supervisor, etc. At least one of the papers must be published solely by the student (100% authorship) and at least one of the other papers must have the student as the first author. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Normally, the first paper shall be submitted for a review by the end of the second year of study. The second paper shall be submitted by the end of the third year of study. By the end of the third year, the student should have one peer-reviewed publication accepted. By the end of the fourth year, the second paper should be accepted.</p> <p>The student can take part in pedagogical activities of their supervisor or those provided by their department. Pedagogical activities are related to the student's dissertation and the exact form is determined by the supervisor. The student can supervise bachelor theses and can also assist their supervisor</p>

Study programme	Form of study	Requirements
		<p>in supervision of master theses.</p> <p>The students needs to do an internship (study or research stay) abroad that is related to their dissertation. It should last at least one month. Foreign mobility is an integral part of doctoral studies.</p> <p>Since the beginning of the studies, the student works closely with their supervisor on research. The student participates in the projects realised by their research team. Starting with the first year of study, the student usually applies for their own grant – e.g. GAUK.</p> <p>By the end of the second year, the student should actively participate in a conference abroad.</p> <p>Publication activities of the student are recorded in OBD of the Faculty of Science. Study and research stays are recorded in SIS in the application Internships.</p>
<p>Social Geography and Regional Development (P1309)</p>	<p>full-time</p>	<p>Every PhD candidate has to take the course General Colloquium (MPG0119) in the first year of study, by the end of the second year the latest. Then the student needs to choose between Theory of Social Geography for PGS (MPGS0088) and Theory of regional development for PGS (MPGS0089). The student has to take at least two or three other exams in subjects related to their dissertation topic. The subjects are selected together with the student's supervisor. As a rule, the examiner is not the supervisor. At least two of these exams have to be passed before the end of the first year of study, the rest by the end of the second year. One of the exams shall be passed outside the Faculty of Science, Charles University. By the end of the second year of study, the student needs to pass theoretical-methodological discussion (MPGS0121). The text is submitted electronically to the supervisor. The submission is followed by a discussion that prepares the student for their state doctoral examination (MSZX005). The state doctoral exam has to be by the end of the second year of study.</p> <p>Starting with the third year of study, the student has to present work on their presentation annually. Such presentation takes place during a doctoral seminar or during a committee set by the subject-area board.</p> <p>Before the defence of the dissertation, the student needs to publish at least to papers in peer-reviewed scientific journals. At least one of the journals must have the impact factor. One paper can be substituted by a chapter in a peer-reviewed scientific book. If appropriate (e.g. due to the topic of the dissertation), the subject-area board can allow publishing in journals from the WoS/Scopus database instead of journals with the impact factor. If the paper is not published yet, the student shall provide a confirmation of acceptance by a journal's editorial board. The papers must be related to the topic of the dissertation. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Dissertation in the form of a set of publications on the same topic: minimum are four scientific papers in peer-reviewed scientific journals (at least one of them must have the impact factor). It is possible to include chapters from peer-reviewed</p>

Study programme	Form of study	Requirements
		<p>scientific books. All the papers must form a logical, thematically unified set. They must be complemented by an introductory chapter and by a conclusion. The introduction must be a fundamental text capturing the essence of the student's research activities. The conclusion should include the key findings and possibilities of further research and its key issues. The number of at least four papers in the dissertation is not crucial, what is crucial is their quality and logical interconnectedness proving scientific abilities of the student. If the papers have more authors, there needs to be a specification of the student's contribution. The contribution is specified by a first author, a team manager, a supervisor, etc. At least one of the papers must be published solely by the student (100% authorship) and at least one of the other papers must have the student as the first author. Only papers affiliated to the Faculty of Science, Charles University are accepted. Normally, the first paper shall be submitted for a review by the end of the second year of study. The second paper shall be submitted by the end of the third year of study. By the end of the third year, the student should have one peer-reviewed publication accepted. By the end of the fourth year, the second paper should be accepted.</p> <p>The student takes part in pedagogical activities of their supervisor or those provided by their department. The student takes part in lectures, seminars, excursions, life-long learning programmes, etc. Pedagogical activities are related to the student's dissertation and the exact form is determined by the supervisor. By the end of the third year of study, the student has usually taught at least one semester two hours per week. The student supervises bachelor theses and can also assist their supervisor in supervision of master theses. At the beginning of every academic year, the student has to insert 2-3 topics of potential (bachelor) theses in SIS. The supervisor is normally added as a consultant. The student takes part in the seminar for master students.</p> <p>The students needs to do an internship (study or research stay) abroad that is related to their dissertation. It should last at least one month. Foreign mobility is an integral part of doctoral studies.</p> <p>The student takes part in department's activities as much as possible. The information about activities and events is usually distributed via e-mail.</p> <p>Since the beginning of the studies, the student works closely with their supervisor on research. The student participates in the projects realised by their research team. Starting with the first year of study, the student usually applies for their own grant – e.g. GAUK.</p> <p>By the end of the second year, the student should actively participate in a conference abroad.</p> <p>Publication activities of the student are recorded in OBD of the Faculty of Science. Study and research stays are recorded in SIS in the application Internships.</p>

Study programme	Form of study	Requirements
	combined	<p>Every PhD candidate has to take the course General Colloquium (MPG0119) in the first year of study, by the end of the second year the latest. Then the student needs to choose between Theory of Social Geography for PGS (MPGS0088) and Theory of regional development for PGS (MPGS0089). The student has to take at least two or three other exams in subjects related to their dissertation topic. The subjects are selected together with the student's supervisor. As a rule, the examiner is not the supervisor. At least two of these exams have to be passed before the end of the first year of study, the rest by the end of the second year. One of the exams shall be passed outside the Faculty of Science, Charles University. By the end of the second year of study, the student needs to pass theoretical-methodological discussion (MPGS0121). The text is submitted electronically to the supervisor. The submission is followed by a discussion that prepares the student for their state doctoral examination (MSZX005). The state doctoral exam has to be by the end of the second year of study. Starting with the third year of study, the student has to present work on their presentation annually. Such presentation takes place during a doctoral seminar or during a committee set by the subject-area board.</p> <p>Before the defence of the dissertation, the student needs to publish at least two papers in peer-reviewed scientific journals. At least one of the journals must have the impact factor. One paper can be substituted by a chapter in a peer-reviewed scientific book. If appropriate (e.g. due to the topic of the dissertation), the subject-area board can allow publishing in journals from the WoS/Scopus database instead of journals with the impact factor. If the paper is not published yet, the student shall provide a confirmation of acceptance by a journal's editorial board. The papers must be related to the topic of the dissertation. Only papers affiliated to the Faculty of Science, Charles University are accepted.</p> <p>Dissertation in the form of a set of publications on the same topic: minimum are four scientific papers in peer-reviewed scientific journals (at least one of them must have the impact factor). It is possible to include chapters from peer-reviewed scientific books. All the papers must form a logical, thematically unified set. They must be complemented by an introductory chapter and by a conclusion. The introduction must be a fundamental text capturing the essence of the student's research activities. The conclusion should include the key findings and possibilities of further research and its key issues. The number of at least four papers in the dissertation is not crucial, what is crucial is their quality and logical interconnectedness proving scientific abilities of the student. If the papers have more authors, there needs to be a specification of the student's contribution. The contribution is specified by a first author, a team manager, a supervisor, etc. At least one of the papers must be published solely by the student (100% authorship) and at least one of the other papers must have the student as the first author. Only papers affiliated</p>

Study programme	Form of study	Requirements
		<p>to the Faculty of Science, Charles University are accepted. Normally, the first paper shall be submitted for a review by the end of the second year of study. The second paper shall be submitted by the end of the third year of study. By the end of the third year, the student should have one peer-reviewed publication accepted. By the end of the fourth year, the second paper should be accepted.</p> <p>The student can take part in pedagogical activities of their supervisor or those provided by their department. Pedagogical activities are related to the student's dissertation and the exact form is determined by the supervisor. The student can supervise bachelor theses and can also assist their supervisor in supervision of master theses.</p> <p>The students needs to do an internship (study or research stay) abroad that is related to their dissertation. It should last at least one month. Foreign mobility is an integral part of doctoral studies.</p> <p>Since the beginning of the studies, the student works closely with their supervisor on research. The student participates in the projects realised by their research team. Starting with the first year of study, the student usually applies for their own grant – e.g. GAUK.</p> <p>By the end of the second year, the student should actively participate in a conference abroad.</p> <p>Publication activities of the student are recorded in OBD of the Faculty of Science. Study and research stays are recorded in SIS in the application Internships.</p>

Study programme	Form of study	Requirements
Teoretical and evolutionary biology (P1526)	full-time	<p>The student is expected to continuously work on the doctoral project and regularly consult the topic with a supervisor. The progress on doctoral thesis is evaluated on yearly basis. Student have to eruditely and comprehensively inform about the state of a dissertation project in the third year of the study at the departmental meeting and in front of subject area board. The doctoral thesis may be either in the form of a monograph or monothematic set of publications on a given topic. Monographic form should be published preferentially in English; Czech is acceptable only in certain specific cases and is not preferred. Doctoral thesis must be appended by at least one peer-reviewed journal article, preferably in journal with an impact factor, where doctoral candidate is the corresponding author. Monothematic set of publications should contain 3 publications in impact journals. Doctoral candidate must be a first and corresponding authors of at least one publication, at least two publications must be in a journal with impact factor. The thesis must include a clear introduction (cc 40 pages, preferably in English, but also Czech is acceptable) explaining the objectives of the dissertation and its results. Active participation in form of talk/poster in at least one international conference is requested. The internship abroad of minimum duration of one month is obligatory. In specific cases, this condition can be substituted by intensive collaboration with foreign research teams.</p>
	combined	<p>The student is expected to continuously work on the doctoral project and regularly consult the topic with a supervisor. The progress on doctoral thesis is evaluated on yearly basis. Student have to eruditely and comprehensively inform about the state of a dissertation project in the third year of the study at the departmental meeting and in front of subject area board. The doctoral thesis may be either in the form of a monograph or monothematic set of publications on a given topic. Monographic form should be published preferentially in English; Czech is acceptable only in certain specific cases and is not preferred. Doctoral thesis must be appended by at least one peer-reviewed journal article, preferably in journal with an impact factor, where doctoral candidate is the corresponding author. Monothematic set of publications should contain 3 publications in impact journals. Doctoral candidate must be a first and corresponding authors of at least one publication, at least two publications must be in a journal with impact factor. The thesis must include a clear introduction (cc 40 pages, preferably in English, but also Czech is acceptable) explaining the objectives of the dissertation and its results. Active participation in form of talk/poster in at least one international conference is requested. The internship abroad of minimum duration of one month is obligatory. In specific cases, this condition can be substituted by intensive collaboration with foreign research teams.</p>

Study programme	Form of study	Requirements
Zoology (P1502)	full-time	<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>Regardless of whether the dissertation is written in classic (monograph) or cumulative format (set of works with an introduction), the work must include at least one article published or accepted for publication in a journal with IF which is closely related to the dissertation topic and the doctoral student is a co-author. 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 by our subject area board. We must point out that the average quality of defended work is quickly growing.</p> <p>A typical, successfully defended dissertation however generally consists of three to eleven scientific articles in journals (mostly with IF) or books, at least some of which have already been published or have been accepted for publication when the dissertation is submitted, while the remaining works may be manuscripts still in the review process at this time. 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. 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>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 be determined by the supervisor, or by the subject area board in</p>

Study programme	Form of study	Requirements
		<p>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>
	combined	<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>Regardless of whether the dissertation is written in classic (monograph) or cumulative format (set of works with an introduction), the work must include at least one article published or accepted for publication in a journal with IF which is closely related to the dissertation topic and the doctoral student is a co-author. 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 by our subject area board. We must point out that the average quality of defended work is quickly growing.</p> <p>A typical, successfully defended dissertation however generally consists of three to eleven scientific articles in journals (mostly with IF) or books, at least some of which have already been published or have been accepted for publication when the dissertation is submitted, while the remaining works may be manuscripts still in the review process at this time. 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. 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>We do not require any formal language examination. However,</p>

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		<p>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 be 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>