

## FORMAL REQUIREMENTS AND ADMINISTRATION OF DOCTORAL STUDIES

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PhD programme: Molecular and Cellular Biology and Genetics

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### General outline:

- **Semesters 1 - 4 (first 2 years of study)** - students work on their research project + fulfill other requirements (theoretical courses, preparing for state doctoral exam - SDE, teaching assistance
- **5<sup>th</sup> semester** - Half way Thesis, enrolled as XD020
- **5<sup>th</sup> - 6<sup>th</sup> semester - SDE (State Doctoral Exam)\***
- **Semesters 5/6 - 8** - main focus on research (work on doctoral project and thesis, publications, presentations at conferences, etc.)

**General requirements for all students in the programme (please see detailed requirements for the Individual Study Plan in the detailed table below):**

**Mandatory duties:** *checked by Dean's Office*

<b>XD100</b>	<b>Ph.D. thesis / Příprava dizertační práce</b>	<i>Enrolled every semester during entire studies, recommended 20-25 ECTS for semesters 1-4, 30 ECTS for semesters 5-8, 20 ECTS for semesters 9 +</i>
<b>Bi0100</b> <b>Bi0101</b>	<b>Seminar for PhD. students I and II /Doktorský seminář ÚEB I a II</b>	<i>Enrolled in semesters 1 – 8</i>
<b>XD010</b> <b>XD011</b>	<b>MU Life Sciences Seminar</b>	<i>Enrolled in semesters 1 – 4</i>
<b>XD020</b>	<b>Half-way Thesis / Kontrolní den v polovině studia</b>	<i>Obligatory in 5<sup>th</sup> semester (2 ECTS)</i>
<b>C7777</b>	<b>Handling chemical substances / Zacházení s chemickými látkami</b>	<i>Enrolled every year of study, every autumn semester</i>
<b>XD102</b>	<b>Teaching Assistance / Pomoc při výuce</b>	<i>Enrolled 4 times in semesters 1-4, maximum 100 hours in total (recommended 0 ECTS)</i>
<b>XD106</b>	<b>Lecture in the foreign language / Odborná přednáška v cizím jazyce</b>	<i>Minimum once during studies (recommended 0 ECTS)</i>
<b>XD110</b>	<b>Placement Abroad / Zahraniční pracovní pobyt</b>	<i>Minimum 1 month stay, min. 1-time during studies (usually 5 ECTS/month), requirement given by law, or participation in international grant project with results presented abroad or another form of direct participation of student on international collaboration (after approval of Doctoral Board). Instructions for recognition of Placement Abroad: <a href="https://www.sci.muni.cz/en/students/go-abroad/recognition-of-stay-abroad">https://www.sci.muni.cz/en/students/go-abroad/recognition-of-stay-abroad</a></i>

(the recognition is done via IS application Internship and Stays, by creating record of the stay and request for recognition; the course is then registered by Dean's Office)

**Theoretical courses and all other requirements:** *checked by the Head of Doctoral Board / Head of Doctoral Committee*

- **minimum 2 courses during semesters 1-4 with corresponding ECTS (before SDE)**

**(\*) Requirements for theoretical SDE:**

*Theoretical preparation for SDE (in 5<sup>th</sup>-6<sup>th</sup> semester). The Doctoral Board will check following aspects:*

- 1) *proficiency in the fundamentals of the broader scientific discipline (20% weight),*
- 2) *deep understanding to the particular scientific specialization (30% weight),*
- 3) *detailed knowledge within the topic(s) of the doctoral research project including context (50% weight).*

Individual study plan elements		Milestones			
		Enrolment to studies (Before semester 1)	End of Semester 4	Semester (5 – 6) (Theoretical State Doctoral Exam, SDE *)	End of Semester 8 (Preparation for PhD defence)
(A) research and development activities (ca. 70 % of workload)	1. <b>Research, dissertation project,</b> literature search of the actual state of the topic, planning and the scientific activities itself (50%).	Define framework topic of your PhD project with your supervisor for enrolment. <b>CHECK: Dean's office [enrolment]</b>  XD100 for each semester (25 ECTS for semesters 1-4, 30 ECTS for semesters 5-8, 20 ECTS for semesters 9+] <b>CHECK: Dean's office</b>	Present "short thesis" (state of the PhD project, results so far, weak points) to Doctoral Board by short talk. Submit brief summary in written form: aims, results obtained, research plan for the 2 <sup>nd</sup> half of the study (3 pages). <b>CHECK: Doctoral Board [Submitted project]</b>	Show proficiency in the fundamentals of the cellular and molecular biology and genetics, detailed knowledge in the field within the scope of doctoral project. <b>CHECK: Doctoral Board [SDE assessment]</b>	Submit PhD thesis according to instructions of Doctoral Board, format according to SCI MUNI requirements  <b>CHECK: Doctoral Board, Dean's office</b>

	<p><b>2. Publications</b> thesis should be based on original research articles accepted for publication in well-recognized international journals demonstrating quality and independence of the student (15%)</p>	No formal check needed	No formal check needed	No formal check needed	<p>Minimum criteria: One student's first-author original paper published in IF-journal ranked above the field median (ISI WOS); alternatively, two original first-author papers in journals with IF exceeding one are acceptable. <b>CHECK: Doctoral Board [Thesis].</b></p>
	<p><b>3. Presentation</b> of results on scientific seminars, symposia, conferences etc., including preparation of talks and/or poster presentations (5%)</p>	No formal check needed	No formal check needed	No formal check needed	<p>At minimum one documented oral presentation in English to appropriate scientific audience, preferentially international conference.  <b>CHECK: Dean's office [XD106]</b></p>
<p>(B) Specialized courses and theoretical preparation (20%)</p>	<p><b>4. Theoretical courses</b>, preparation to the state doctoral exam – SDE (15%)</p>	<p>Identify student's knowledge gaps and what should be learned for SDE. Based on consultation with student's supervisor select courses to be enrolled. Minimum 2 credited courses are required. Selection can be changed/updated for each semester.</p>	<p>Successfully pass at minimum 2 credited theoretical courses.  <b>CHECK: Doctoral Board [IS.MUNI]</b>  Have all other requirements fulfilled (see below in this column) and submit <b>the application to theoretical SDE</b> (Doctoral Board organizes SDE further).</p>	Not relevant anymore, all requirements fulfilled before.	Not relevant anymore, all requirements fulfilled before.

		CHECK: Supervisor			
	5. <b>Doctoral seminars</b> (5%)	Enroll XD010/ XD011 (obligatory seminar for 4 semesters) and Bi0100/Bi0101 for 8 semesters)  CHECK: Student	CHECK: Dean's office [4 semesters of XD010/XD011]	CHECK: Dean's office [8 semesters of Bi100/Bi101]	Semesters when student is at international stay abroad are excluded. CHECK: Dean's office [IS.MUNI]
(C) International experience and competitiveness	6. <b>Further improving of English competences</b> (attending courses, seminars, conferences, writing publications, all in English).	No formal check needed	No formal check needed	No formal check needed	No formal check needed  CHECK: Dean's office [XD106]
	7. <b>Stay or internship abroad</b> - mandatory participation in international cooperation.		No formal check needed	No formal check needed	Minimum is 1 month foreign stay, longer stays are preferred considering the topic or participation in international grant project with results presented abroad or another form of direct participation of student on international collaboration CHECK: Dean's office [stay abroad in IS; e.g. XD110] or chairman of Doctoral Board
(D) Pedagogical competences	8. <b>Teaching assistance</b> - classrooms, exercises, advising undergrad students and comparable.	About 100 hours through the entire doctoral studies. Passed during first four semesters.	CHECK: Dean's office [IS; XD102 for 4 semesters]	Not relevant anymore, all requirements fulfilled before.	Not relevant anymore, all requirements fulfilled before.

		<b>CHECK: Student</b>			
(E) Other transferrable skills.	<b>9. Career development</b> - preparation and management of projects, scientific writing, communication, other soft-skills.	No formal check needed Optional soft skills courses available: S4001 Presentations on international events, S4003 Guiding of research career, S4004 Research funding-grant applications, D01 Publish or perish  <b>CHECK: Student</b>	No formal check needed	No formal check needed	No formal check needed

**Recommended theoretical courses**

Based on consultation with his/her supervisor student enrolls the courses offered by Masaryk University Faculty of Science extending and deepening knowledge within the field Molecular and Cellular Biology and Genetics fundamentals according to the individual needs (taking into account specificity of doctoral project, individual study history, etc.)	

