

**Education Programme in Biochemistry, Biophysics,
Molecular Biology and Biotechnology
in the discipline of biological sciences
conducted in Polish
at the Doctoral School of Exact
and Natural Sciences**

I

General provisions

1. The education programme in Biochemistry, Biophysics, Molecular Biology and Biotechnology has been developed according to the Act of 20 July 2018 on Law on Higher Education and Science and the guidelines in force at the Jagiellonian University in Kraków.
2. The education programme leads to achieving learning outcomes for the qualifications at Level 8 of the Polish Qualification Framework (PQF).
3. The education programme in Biomedical Sciences lasts 8 semesters.
4. Polish is a medium of instruction of the education programme. Courses can also be taught in English.
5. Detailed requirements and eligibility criteria for admission to the programme are defined in the admission terms and conditions as approved by the Jagiellonian University Senate.
6. Within 12 months of the commencement of the programme, a doctoral student shall submit an Individual Research Plan (IRP) to the education programme coordinator for their opinion and submission to the Director of the Doctoral School.
7. A doctoral student is required to achieve a minimum of 40 ECTS credits (ECTS – European Credit Transfer and Accumulation System) allocated to the Biochemistry, Biophysics, Molecular Biology and Biotechnology education programme and to attain all the required learning outcomes at the Level 8 of the Polish Qualification Framework, of which:
 - a minimum of 30 ECTS is related to the preparation to conduct and communicate research;
 - a minimum of 8 ECTS is completed within the framework of elective classes developing professional and didactic skills;
 - a minimum of 25 ECTS is completed by the end of the semester in which mid-term assessment is conducted;
 - a minimum of 10 ECTS is completed in the form of teaching or co-teaching classes.
8. Detailed instruction for achieving and assessing learning outcomes shall be specified in the syllabuses of the individual courses.

II

Professional traineeship

1. Professional traineeship shall take the form of teaching or co-teaching.
2. In agreement and at the application of a doctoral student, the programme coordinator may accept other forms of professional traineeship, including didactic traineeship, such as conducting classes promoting science, providing such a form ensures achieving all the learning outcomes allocated to the professional traineeship.
3. A doctoral student is required to conduct 120 teaching hours during the entire programme, of which a maximum of 40 teaching hours may be in the form of class observation.
4. The number of hours of professional traineeship shall not exceed 60 teaching hours (a teaching hour equals 45 minutes) per academic year.

III

Study and research progress assessment

1. The supervisor(s), in cooperation with the programme coordinator and the Director of the Doctoral School, shall supervise implementing the education programme and the Individual Research Plan of the doctoral student.
2. Annually, but no later than by 17 September, a doctoral student shall submit to the programme coordinator a written report on the implementation of the Individual Research Plan, reviewed by the supervisor(s) and the auxiliary supervisor.
3. The programme coordinator shall assess the degree of implementing the study and research work based on information from the doctoral student as defined in point 2, and a report from the University Study-Oriented System (USOS).
4. Any change to the Individual Research Plan, in particular modifying or rescheduling the doctoral student's duties, shall require consulting the programme coordinator.
5. The programme coordinator may decide to reschedule the doctoral student's duties resulting from the education programme and to accept courses or activities not specified in the education programme as part of the performance of the duties (with the relevant allocation of ECTS credits), provided that changes to the Individual Research Plan are not needed. Such courses may be taken in place of obligatory courses as well as other courses.
6. When additional funding is available or in well justified cases, the programme coordinator, in consultation with School representatives of the Jagiellonian University PhD Student Association and the Director of the Doctoral School, may oblige doctoral students to take courses not specified in the education programme.
7. The date of the mid-term assessment is established by the Director of the Doctoral School on the proposal of the programme coordinator.
8. One month before the scheduled meeting of the mid-term assessment committee, the doctoral student shall submit to the programme coordinator a written report on the implementation of the Individual Research Plan. The report has to be approved by the supervisor(s) and the auxiliary supervisor before submission.

9. Meetings of the mid-term assessment committee shall be attended by the committee members, and the doctoral student in those parts to which they have been invited, in accordance with separate provisions.

IV Schedule

**SCHEDULE FOR THE EDUCATION PROGRAMME IN BIOCHEMISTRY, BIOPHYSICS,
MOLECULAR BIOLOGY AND BIOTECHNOLOGY**

DOCTORAL SCHOOL OF EXACT AND NATURAL SCIENCES EDUCATION PROGRAMME IN BIOCHEMISTRY, BIOPHYSICS, MOLECULAR BIOLOGY AND BIOTECHNOLOGY						
Item	Aim	Description	PQF*	Semester	No of ECTS	No of hours
OBLIGATORY COURSES AT THE DOCTORAL SCHOOL OF EXACT AND NATURAL SCIENCES (16 ECTS)						
Specialist seminar		Seminar: to present the PhD student's own results against the achievements in the field, to solve research problems, to share research experience and ideas. Assessment: an oral presentation and active participation in discussions	P8S_WG P8S_UW P8S_UK P8S_KK	I-VIII	8	120
English		English classes at C1 level for the PhD students who do not hold a C1 certificate or are not graduates of master studies conducted in English. Assessment: examination	P8S_UK	I-II	4	60
Tutorial with the supervisor		Preparation of the individual research project, verification of the work plan, preparation of presentations on the project, editorial work on publication. Assessment: approval of the work progress by the supervisor	P8S_WG P8S_UW P8S_UK P8S_KK	I-VIII	4	60

ELECTIVE JOINT ACTIVITIES FOR THE DOCTORAL SCHOOL OF EXACT AND NATURAL SCIENCES(MINIMUM 6 ECTS)					
Doctoral School Seminar	A monthly interdisciplinary seminar with lectures in English delivered by invited researchers. Assessment: credit based on participation	P8S_WG P8S_UW P8S_UK	I-VIII	4 (1 x 4)	Minimum 6 seminars a year
Modern foreign language	As a second foreign language Assessment: examination	P8S_UU	I-IV	4	60
Polish language course for foreigners	Assessment: examination	P8S_UU	I-VIII	4	60
General knowledge development course	One course out of a range of courses offered before each academic year (e.g. a course in philosophy, ethics, IA or cosmology) Assessment: examination	P8S_UW P8S_KR P8S_WK	I-VIII	2 for 30 hours	30 or 60
Professional competencies and soft skills development	A course selected by a PhD student from a range of courses offered before each academic year (e.g. career planning, managerial skills, business communication) Assessment: as provided in the course syllabus	P8S_WKP 8S_KRP8 S_KO	I-VIII	2 for 30 hours	30
ELECTIVE ACTIVITIES DEVELOPING PROFESSIONAL SKILLS (MINIMUM 6 ECTS)					
Lecture: Progress in Biochemistry and Molecular Biology	Lectures delivered by the specialists in biochemistry and molecular biology (from the University Faculty of Biochemistry, Biophysics and Biotechnology) on the recent research and achievements in the fields. Assessment: examination	P8S_WG P8S_KK	II	2	30

English-language advanced course in biophysics	Lectures delivered by the specialists in biophysics (from the Faculty of Biochemistry, Biophysics and Biotechnology) on the advanced issues of modern biophysics. Assessment: examination	P8S_WG P8S_UK P8S_KK	I	2	30
English-language course in bioethics	Lectures and seminars on the ethical aspects of scientific research in the field of modern life sciences, in particular molecular biology and biotechnology. Assessment: presentation	P8S_WK P8S_UK P8S_KR	I-IV	2	30
Animals in scientific research - a practical training for PhD students	Classes and seminars aimed at preparing PhD students to independently design, prepare and conduct a scientific experiment with the use of laboratory animals, with the main emphasis on learning and improving practical skills. Assessment: seminar: presentation , classes: written credit	P8S_WG P8S_UK P8S_KK	I-IV	3	45
Scientific publication methodology - a course for PhD students	Workshops and practical classes devoted to the methodology of writing a scientific publication, presentation of results, preparation of responses to reviews (grant, publication, etc.), preparation of a dissertation and editing of a grant application. The specifics of "scientific English" (classes with a "native speaker") are also discussed. Assessment: active participation and preparation of two written works: a poster or presentation in PP and a grant application.	P8S_WK P8S_UW P8S_UK P8S_KR	I-IV	2	30

Specialist lectures (including lectures of visiting professors)	Lectures on the recent achievements in natural sciences, offered by specialists, including visiting professors. Assessment: presence at the lectures	P8S_WG P8S_UK P8S_KK	I-VIII	3 1 for a 15-hour lecture	45
Courses and activities leading to attaining competences to accomplish Individual Research Plan (e.g. summer schools, courses completed at other universities, including foreign universities).	Assessment: as provided in the course syllabus				
ACTIVITIES DEVELOPING TEACHING SKILLS					
Teaching methods and IT tools in didactics and scientific work	Lecture, seminars, distance learning labs. To familiarise PhD students with the basic teaching problems, in particular the teaching methods and techniques, the methodology of designing and evaluating tests and reports. The students learn how to operate a distance learning platform PEGAZ, as well as two programs relevant in scientific work: 1. bibliography management system Mendeley, 2. program for data analysis and processing GraphPad Prism. Assessment: practical tasks and oral presentation	P8S_WK P8S_UU	I-IV	3	45

University didactics for natural sciences	Workshop: to prepare PhD students for conducting classes for the students of natural sciences. Assessment: active participation in workshops and at the distance learning platform. Written and oral presentation of the class scenario.	P8S_WK P8S_UU	I-IV	2	30
TRAINEESHIP (MINIMUM 10 ECTS)					
Traineeship in academic didactics	Preparation for work as an academic teacher: developing communication skills and knowledge transfer skills. Assessment: credit based on the opinion issued by a person supervising conducting classes by a PhD student	P8S_UO	I-VIII	10	120
<p>Additional obligatory courses:</p> <ol style="list-style-type: none"> 1. PhD students who start their education in the Doctoral School are required to complete a Health and Safety at Work training / BHP. 2. First Aid course (theoretical part and practical part) is to be completed by the end of the 2nd semester. 3. PhD students who plan research involving vertebrate animals are required to take training to obtain appropriate qualifications. 					

*PQF /PRK – Polish Qualifications Framework / *Polska Rama Kwalifikacji* in accordance with the Regulation of the Minister of Science and Higher Education on the characteristics of second-level learning outcomes for qualifications at Levels 6-8 of the Polish Qualifications Framework.

<https://prk.men.gov.pl/en/1en/>

Conducting research and preparing a doctoral dissertation within the meaning of Article 187(3) of the Act of 20 July 2018 - Law on Higher Education and Science (i.e. Journal of Laws of 2023, item 742 as amended) fulfills in part achieving all types of learning outcomes for qualifications at Level 8 of the PQF. The achievement of these outcomes is verified by the supervisor.

Doctoral students with disabilities and persons in a special health situation may apply for the adaptation of the education process realisation to their needs, according to the principles specified in the order of the Jagiellonian University Rector.

V

Final provision

The *Biochemistry, Biophysics, Molecular Biology and Biotechnology* education programme in the discipline of biological sciences at the Doctoral School of Exact and Natural Sciences shall enter into force on the date of the Resolution.