

The information provided in the text is of an ancillary nature and does not constitute the source of law

The curriculum

at the

School of Doctor of Molecular Biology and Biological Chemistry

conducted by the **Institute of Biochemistry and Biophysics,**

in the field of science and science disciplines:

1: Biological Sciences

2: Chemical sciences

Course name	Form of classes	Classes time duration	Form of credit	Learning outcome ¹
Lectures in the discipline ² biological sciences or chemical sciences	series of lectures	30h	exam	W01, W02, W05, U01, U02, U03, K01, K02, K03, K09, K10, K11
Interdisciplinary lectures ²	series of lectures	15	pass	W01, W02, W05, U01, U03, K01, K02, K03, K09, K10, K11
Statistical methods in experimental sciences	lectures /exercises	15h	pass	W06, U04, U07, K03, K04, K05
Training in: <ul style="list-style-type: none"> ✓ fundraising for research ✓ commercialization of research results ✓ legal aspects of the research ✓ career paths - formal and customary aspects ✓ popularizing knowledge and media communication 	series of lectures / workshops	15h	Credit and submission of a mini-grant; it is recommended to prepare an application for an external competition (e.g. NCN, NAWA) in agreement with the supervisor ³	W04, W07, W08, W09, W12 U03, U04, U05, U07, K01, K02, K04, K05, K06, K07

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Philosophy of science	cycle lectures	30h	pass	W01, U01, K01, K03
Ethical aspects (including scientific honesty) in scientific research	series of lectures	5h	pass	W01, U01, K01, K03
English language ⁴	language course	120h (4 semesters)	pass	W05, U04, U05, K01
OHS training ⁵		2h		W10, K08
Doctoral Institute seminars ⁶ and Institute Seminars ⁷	series of seminars	50h	pass	W01, W02, W03, U01, U03, U04, U06, U07, K01, K02, K03, K04, K09, K10, K11
Reporting session ^{8th}	symposium	6h x 2		W01, W02, W05 U01, U02, U04 K01, K03

The program covers 180 hours of compulsory classes, including 65 hours of optional classes and additionally English language course (at least four semesters) for doctoral students with lower than B2 linguistic competences.

It is recommended that the curriculum of classes be implemented during the first three years of education at the Doctoral School.

The curriculum at the Doctoral School includes didactic classes. It does not include the total time allocated to the implementation of the doctoral dissertation. The duration of the research and scientific work required to complete the doctoral dissertation is agreed with the doctoral student by the supervisor.

¹ Learning outcomes achieved as a result of the course. A detailed description of the effects denoted by symbols can be found in Appendix 1 to the Doctoral School Training Program.

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² A doctoral student is required to pass (exam) 30 hours of obligatory lectures for the discipline in which the doctoral dissertation is realized and 15 hours (credit) of optional lectures from a chosen discipline other than the one in which the doctoral dissertation is realized or interdisciplinary lectures. Upon agreement with the dissertation supervisor, the doctoral student may choose lectures conducted in scientific units other than IBB PAN.

³ To the prepared application for funding, the doctoral student attaches the opinion of the promoter, sample attached - Appendix No. 2.

⁴ The lectureship is compulsory for doctoral students who score less than or equal to 60% in the language competency test organized by the School. The test takes place during the first three months of training at the School. Doctoral students who are citizens of countries where English is the main official language, graduates of universities in countries where English is the main official language, and those who have a certificate certifying English proficiency of at least B2 are exempt from the test. A list of certificates certifying English proficiency at the required level is given in Appendix 3.

⁵ Occupational health and safety training takes place during the first three months of training at the Doctoral School. Stationary health and safety training is conducted by the supervisor or a designated person before the start of the experiments planned in the project.

⁶ The doctoral student is required to attend (min. 50% attendance) the Doctoral Institute Seminars as a student for min. 2 years, as well as to prepare one presentation of his/her own results (after the mid-term evaluation). It is recommended to attend seminars during the entire training period.

⁷ A doctoral student is required to attend (min. 25% attendance) an Institute seminar as a listener for min. 2 years. It is recommended to attend seminars during the entire training period.

⁸ A doctoral student is required to participate two times, including at least one presentation of his own results at the annual doctoral student reporting session (in the second or third year) during the period of training at the Doctoral School.

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*Appendix 1 to the Education Program at the Doctoral School of
Molecular Biology
and Biological Chemistry*

Learning outcomes
in
the School of Doctor of Molecular Biology and Biological Chemistry
Profile BIOL-CHEM

run by the **Institute of Biochemistry and Biophysics of the Polish Academy of Sciences,**

in the field of exact and natural sciences in the disciplines:

1: Biological Sciences

2: Chemical Sciences

The implementation of the program of the Doctoral School of Molecular Biology and Biological Chemistry prepares for scientific and research work by achieving the learning outcomes assigned to level 8 of the Polish Qualifications Framework (*Act of 22 December 2015 on the Integrated Qualifications System*) in the scope of:

1. general knowledge in the disciplines of biological and chemical sciences;
2. knowledge at an advanced level, of a detailed nature, corresponding to the area of scientific research in a given discipline and in interdisciplinary research;
3. social competences in the field of scientific and research work and the social role of a scientist.

The description of learning outcomes in terms of knowledge (W), skills (U) and social competences (K) is presented in the table:

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LEARNING OUTCOMES	
Learning outcome symbol	Learning outcome description
KNOWLEDGE	
W01	Has extensive knowledge of a general nature related to the chosen scientific discipline (biological sciences, chemical sciences).
W02	Has detailed knowledge related to the area of research conducted, taking into account the latest scientific reports.
W03	Has detailed knowledge of research techniques and research methodology in the selected scientific discipline.
W04	Has knowledge of the acquisition of scientific information.
W05	Has detailed knowledge of professional vocabulary in the area of conducted research in the native language and English.
W06	Has basic knowledge of statistical methods of data analysis and detailed knowledge of statistical tools used in analyzing one's own results
W07	Has knowledge of obtaining funds for conducting scientific research.
W08	Knows the principles concerning the reliability of conducting scientific research and publishing the results.
W09	Has knowledge of the ethics of medical research involving human beings and human tissues and the principles of humane handling of laboratory animals.
W10	Has knowledge of the principles of safety in the workplace.
W12	Knows the rules for conducting doctoral dissertations in universities and scientific institutes.

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SKILLS	
U01	He can formulate a research problem and identify research methods to solve it.
U02	Has an excellent command of research skills in the area of own scientific research.
U03	Is able to acquire scientific information and evaluate the significance of recent scientific reports in the discipline of biological sciences and chemical sciences in the context of own scientific research.
U04	Is able to present the results of research work in the form of a publication, conference report or multimedia presentation, analyze and critically discuss them in Polish and English.
U05	Able to properly prepare an application for research funding for young scientists.
U06	Able to teach using current knowledge and teaching methods.
U07	Able, under the supervision of a supervisor or a supervisor and an assistant supervisor, to prepare a dissertation and present its main ideas during a public defense.
SOCIAL COMPETENCE	
K01	He is aware of the momentous role of the scientist and researcher in the development of biological and chemical sciences, serving the welfare of societies and improving their quality of life.
K02	He can think and act creatively and entrepreneurially, create new ideas and seek innovative solutions, and is aware of the responsibility for the consequences of his actions and decisions.
K03	He understands the obligation to constantly expand his knowledge and improve his research technique. He is ready to critically evaluate scientific achievements in the discipline of biological and chemical sciences and his own contribution to the development of the discipline. He is aware of his own limitations and understands the need for consultation and exchange of experience in the scientific community.

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K04	Understands the principles of creative work in a research team in the process of conducting scientific research, developing results and producing scientific publications.
K05	Understands and adheres to the principles of scientific ethics including research and publication integrity.
K06	Applies principles of ethics, including data confidentiality, in scientific research. Observes the principles of humane treatment of laboratory animals in scientific research and strictly adheres to the recommendations of the bodies that supervise such research.
K07	Is aware of ethical, legal and economic responsibility for spending funds obtained for scientific research according to their intended use.
K08	He is responsible and able to take care of his own safety and that of his colleagues in the workplace.
K09	Understands the importance and social significance of teaching activities in the field. Is committed to educating specialists in the field, as well as responsibly communicating knowledge and opinions on scientific achievements to the public.
K10	He is aware of the need to constantly improve his teaching workshop, taking into account the latest educational methods and techniques.
K11	He observes good academic manners, understands the importance and creativity of teacher-student relations.

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*Appendix 2 to the Education Program at the Doctoral School of
Molecular Biology and Biological Chemistry*

.....
date

Supervisor's opinion on the project prepared by the PhD student

I give a positive opinion on the project for research funding / scholarship,
(eg Preludium, NAWA)

prepared by Ms / Mr
name and surname of the doctoral student

I accept the content of this application and declare cooperation in the implementation of the project.

.....
supervisor's signature

list of certificates and documents confirming the knowledge of modern English**§ 1**

The list of certificates confirming the knowledge of modern English is as follows:

1. Certificate confirming the knowledge of the English language issued by the National School of Public Administration as a result of a linguistic screening procedure;
2. Certificates confirming the knowledge of English at least at the B2 level on the global scale of language proficiency according to the "Common European Framework of Reference for Languages: learning, teaching, assessment (CEFR) - European system of description of language education: learning, teaching, assessment (CEFR)":
 - 1) Certificates issued by institutions associated with the Association of Language Testers in Europe (ALTE) - levels ALTE Level 3 (B2), ALTE Level 4 (C1), ALTE Level 5 (C2), in particular First Certificate in English (FCE), Certificate in Advanced English (CAE), Certificate of Proficiency in English (CPE), Business English Certificate (BEC) Vantage - at least Pass, Business English Certificate (BEC) Higher, Certificate in English for International Business and Trade (CEIBT),
 - 2) Certificates of the following institutions:
 - a) Educational Testing Service (ETS) - in particular the following certificates: Test of English as a Foreign Language (TOEFL) - at least 87 points in the Internet-Based Test (iBT) version; Test of English as a Foreign Language (TOEFL) - at least 180 points in the Computer-Based Test (CBT) version supplemented by at least 50 points from the Test of Spoken English (TSE); Test of English as a Foreign Language (TOEFL) - at least 510 points in the Paper-Based Test (PBT) version supplemented by at least 3.5 points from the Test of Written English (TWE) and by at least 50 points from the Test of Spoken English (TSE); Test of English for International Communication (TOEIC) - at least 700 points; Test de Français International (TFI) - at least 605 points,
 - b) European Consortium for the Certificate of Attainment in Modern Languages (ECL),
 - c) City Guilds, City Guilds Pitman Qualifications, Pitman Qualifications Institute - in particular the following certificates: English for Speakers of Other Languages (ESOL) - First Class Pass at Intermediate Level, Higher Intermediate Level, Advanced Level; International English for Speakers of Other Languages (IESOL) - "Communicator" level, "Expert" level, "Mastery" level; City Guilds Level 1 Certificate in ESOL International (reading, writing and listening) Communicator (B2) 500/1765/2; City Guilds Level 2 Certificate in ESOL International (reading, writing and listening) Expert (C1) 500/1766/4; City Guilds Level 3 Certificate in ESOL International (reading, writing and listening) Mastery (C2) 500/1767/6; Spoken English Test (SET) for Business - Stage B "Communicator" level, Stage C "Expert" level, Stage C "Mastery" level; English for Business Communications (ECB) - Level 2, Level 3; English for Office Skills (EOS) - Level 2,
 - d) Edexcel, Pearson Language Tests, Pearson Language Assessments - in particular the following certificates: London Tests of English, Level 3 (Edexcel Level 1 Certificate in ESOL International); London Tests of English, Level 4 (Edexcel Level 2 Certificate in ESOL International); London Tests of English, Level 5 (Edexcel Level 3 Certificate in ESOL International),

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- e) Education Development International (EDI), London Chamber of Commerce and Industry Examinations Board - in particular the following certificates: London Chamber of Commerce and Industry Examinations (LCCI) - English for Business Level 2, English for Business Level 3, English for Business Level 4; London Chamber of Commerce and Industry Examinations (LCCI) - Foundation Certificate for Teachers of Business English (FTBE); London Chamber of Commerce and Industry Examinations (LCCI) - English for Tourism Level 2 - "Pass with Credit" level, "Pass with Distinction" level,
 - f) University of Cambridge ESOL Examinations, British Council, IDP IELTS Australia - in particular certificates: International English Language Testing System IELTS - over 6 points,
 - g) Warsaw University Coordination Council for the Certification of Language Proficiency;
- 3) telc GmbH, WBT Weiterbildungs-Testsysteme GmbH - in particular the following certificates: B2 Certificate in English - advantage, B2 Certificate in English for Business Purposes - advantage, Certificate in English for Technical Purposes (B2), telc English B2, telc English B2 Business, telc English B2 Technical, telc English C1;
3. Graduation diplomas:
- 1) Studies in the field of foreign philology or applied linguistics in the field of English;
 - 2) Teachers' College of Foreign Languages in the field of English;
 - 3) Of the National School of Public Administration in the field of English.
4. A document issued abroad confirming obtaining a degree or an academic title or a degree or title in the field of art - English shall be recognized if it was the language of instruction of the institution providing the education.
5. Document confirming the completion of studies or postgraduate studies abroad or in the Republic of Poland - the language of instruction shall be recognized if the language of instruction was only English.
6. A document issued abroad recognized as equivalent to the secondary school-leaving examination certificate - the language of instruction shall be considered if the language of instruction was exclusively English.
7. International Baccalaureate Diploma in English.
8. European Baccalaureate diploma in English.
9. Certificate of passed the departmental examination in English in:
- 1) Ministry of Foreign Affairs;
 - 2) the office supporting the minister responsible for economy, the Ministry of Foreign Economic Cooperation, the Ministry of Foreign Trade and the Ministry of Foreign Trade and Maritime Economy;
 - 3) Ministry of National Defense - level 3333, level 4444 according to STANAG 6001.
10. A certificate issued by the National School of Public Administration confirming qualifications to work in a high state position.
11. Document confirming entry on the list of sworn translators in the Republic of Poland or a document confirming the authorization of a sworn translator in another Member State of the European Union, a member state of the European Free Trade Association (EFTA), which is a party to the Agreement on the European Economic Area or in the Swiss Confederation in terms of language English.