



NAZARBAYEV  
UNIVERSITY



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## Ph.D. in Chemistry

The Ph.D. in Chemistry program of the School of Sciences and Humanities (SSH) at Nazarbayev University (NU) is designed to prepare students to become independent, creative practitioners in Chemistry. The program provides an intensive training approach both in theory and experimentation that will enable students to be better equipped in their preparation for their different career paths in academia, research and development, science-based start-ups, and the industry. The PhD in Chemistry program focuses on priority areas for Kazakhstan, serving as a foundation for future high-tech industries and knowledge-based economy.

### About

By completing the Ph.D. in Chemistry program, students will gain deep and systematic knowledge of the fundamental and advanced principles in chemistry, and develop the ability to identify, analyze, and provide solutions to a wide spectrum of scientific and technological problems in the 21st century and beyond, while fostering entrepreneurship. The graduates are expected to acquire advanced chemical, physical, mathematical, theoretical, and hands-on experiences in their relevant field of expertise.

Students in the Ph.D. in Chemistry program are required to complete 240 ECTS credits, within a normal timeline of 4 years, which is in line with the Regulatory Framework for Graduate Programs and Courses of Nazarbayev University (2019).

The program consists of comprehensive course work and research activity. The courses are designed to enable students to acquire highly advanced and cutting-edge knowledge in Chemistry. Additional, flexible learning time allocated into their research program which would enable them to attend specialized equipment training courses and gain practical skills in working with Nazarbayev University core facilities, essential for their research projects. After passing a comprehensive exam and Ph.D. proposal defense, students are required to develop and practice novel research within the area of Chemistry, or an interdisciplinary field related to Chemistry. Research components of the program and dissertation defense will be passed by each student to complete the program and graduate.

### Requirements

#### **Application package checklist for Ph.D in Chemistry program**

#### **Applicants applying to the Ph.D in Chemistry are expected to have:**

1) an undergraduate degree (Bachelor's degree or equivalent) and master's degree (or equivalent) in a relevant discipline, to be determined by the Admissions Committee (Admission Committee is in charge to decide what discipline is relevant or not). During the application period final year students may submit official current transcript for consideration. Applicants may be enrolled conditionally based on evidence from graduating university the applicants have completed the educational program and the applicant expects formal issuance of final transcript and/or diploma by certain date. In that case, the decision on

enrollment shall prescribe the period of time within which the applicants shall provide the necessary documents to the University.

Applicants who obtained their degree diplomas/certificates from foreign education institutions must request their official transcripts to be sent directly to the Admissions Department of the University. In exceptional cases that the foreign education institution does not provide such service, the transcript can be submitted to the Admissions Department directly by applicant upon confirmation by foreign education institution via corporate electronic mail. When applicants provide a certificate of nostrification of a diploma issued by the Ministry of Education and Science of the Republic of Kazakhstan or an apostilled document by a foreign education institution, sending an official transcript directly to the University Admissions Department is not mandatory;

2) a minimum CGPA of 2.75 out of 4.00 in their highest degree;

3) The absolute minimum requirement for English language proficiency test reports for admission to the Ph.D. in Chemistry program is:

– overall IELTS test score of 6.5 (with sub-score requirements no less than 6.0), or the equivalent TOEFL score as posted on the ETS website.

Applicants to the Program, at the discretion of the Admissions Committee, can be exempted from submitting the language proficiency test report if:

– one of their earlier academic degrees was earned in a country with English as the language of official communication, academic instruction and daily life;

– a Master's degree or equivalent was earned in a program which was officially taught in English;

– the applicant is a graduate of University.

4) an official electronic score report of a valid IELTS/TOEFL certificate from the Test Administrator and its scanned copy (if applicable) must be submitted;

5) two confidential letters of recommendation in English (or with notarized English translation). One of the two recommendations must be written by a current or previous employer or research supervisor. The second referee may be chosen at the applicant's discretion;

6) a statement of purpose not exceeding 500 words, explaining the motivation to enroll on the Ph.D. program in Chemistry, and the tentative choice of the research subject;

7) valid GRE Test Report (general test). An applicant must indicate University as a recipient when registering for the test. In case the applicant passed the test earlier, he/she can contact the test center and indicate Nazarbayev University as a recipient. Although an official GRE score is not an essential requirement, an applicant can enhance her/his application with a competitive GRE score;

8) the relevance of the academic and experiential background, and the equivalency and appropriateness of earlier degrees, will be determined by the Admissions Committee.

Application package checklist for the Ph.D. in Chemistry program:

- complete Application form for Ph.D. in Chemistry program;
- undergraduate and graduate degree diplomas/certificates with transcripts (with notarized English translation);
- IELTS or TOEFL test report/certificate valid as of date of online documents submission to the Ph.D. in Chemistry program. An applicant must indicate University as a recipient when registering for the test. In case if the applicant passed the test earlier, he/she can contact the test center and indicate the University as a recipient. Applicants can provide official electronic score report of valid Academic IELTS or TOEFL IBT certificates from Test Administrator and its scanned copy;

- document confirming English as the language of instruction (only for applicants who earned their degree in a program which was taught in English and request an exemption from submitting IELTS or TOEFL);
- official copy of Passport/national ID (with notarized English translation);
- GRE test reports/certificates (optional) valid as of date of online documents submission to the Ph.D. in Physics program;
- two confidential letters of recommendation in English (with notarized English translation) written within the last 12 months (to be provided by referees electronically or in hard copy);
- resume (up to two A4 pages);
- a statement of purpose not exceeding 500 words, explaining the motivation to enroll on the Ph.D. in Physics, and the tentative choice of the research subject;
- consent for Prospective Student's/Student's/Graduate's personal data processing;
- Applicants recommended for admission must provide hard copies of IELTS and GRE results (if applicable) as requested by the Admissions Department.

### **Duration**

4 years

### **Career and internship support**

Ph.D. in Chemistry students will benefit from a number of contacts with the international scientific community as well as industry. Strong scientific ties have already been established with other outside bodies engaged in research. All students have the opportunity to take part in a 6 to 12 month internship at an international host research institution. The host supervisor and supervisory team at NU will maintain communication with the student throughout the student's stay in order to make an efficient use of the host premises and facilities for the benefit of the PhD student.

### **Program structure**

The PhD program will typically be conducted over 48 months full time. Each student will develop their personal and professional skills and their PhD program as part of the core curriculum courses. The program includes the possibility of taught courses (during the first year) to support the development of postgraduate research students, to extend and test their knowledge in their research discipline. Each student will be required to formally pass a comprehensive exam at the second year and defend their PhD proposal at the end of the third semester. The program will then progress into a period dedicated to their research topic, from which a demonstrable original contribution to the knowledge pool will be assessed. Continuation into a 5th year is possible upon approval and may come with specific requisites and stipulations. The program includes the possibility of a mobility period of 6-12 months in a host university abroad in order to provide the students with international experience.

### **Funding**

\*\*Ample funding is available for local and international students, with the majority receiving a full scholarship and stipend.\*\*

To get more details follow the link: <https://nu.edu.kz/admissions/scholarships>

Doctoral students are given the opportunity to work at NU as a teaching assistant or research assistant (approximately 10 hours per week).