

**April 2024 and October 2023 Enrollment**

**Graduate School of Chemical Sciences and Engineering  
Hokkaido University**

**Master's Degree Program  
(Master's Course)**

# **Application Guidelines**

**(Including International Student Admission Information)**

[Important]

There is a possibility that admission tests may be conducted with different contents from those described in this application guideline due to the effects of new coronavirus infections and other factors. If there are any changes, they will be posted on our homepage (<https://www.cse.hokudai.ac.jp/>), so be sure to check our homepage regularly.

If you have any questions regarding the application process, contact the office below.

Administration Office, Graduate School of Chemical Sciences and Engineering,  
Hokkaido University (CSE Office)  
Kita 13, Nishi 8, Kita-ku, Sapporo, 060-8628 Japan  
Tel: +81-11-706-7247 c-sougou@cse.hokudai.ac.jp

**April 2023**

## Table of Contents

Overview of the Graduate School of Chemical Sciences and Engineering and the Division of Chemical Sciences and Engineering .....	1
Admission Policy.....	1
<b>I. General Admission</b>	
1. Admission Quotas.....	3
2. Application Qualifications.....	3
3. Preliminary Review of Application Qualifications (Application Period, Etc.).....	4
4. Application Method.....	5
5. Application Documents .....	6
6. Where to Apply.....	8
7. Submission of English Scores .....	8
8. Selection Method.....	9
9. Examination Schedule, Etc.....	9
10. Examination Subject.....	10
11. Announcements of the Result .....	10
12. Enrollment Procedures and Expenses .....	11
13. Important Notes .....	11
14. Long-Term Study Program.....	11
15. Others.....	11
<b>II. International Student Admission</b>	
1. Admission Quotas.....	12
2. Application Qualifications.....	12
3. Preliminary Review of Application Qualifications (Application Period, Etc.).....	13
4. Application Method.....	14
5. Application Documents .....	15
6. Where to Apply.....	16
7. Submission of English Scores .....	16
8. Selection Method.....	17
9. Examination Schedule, Etc.....	17
10. Announcements of the Result.....	17
11. Enrollment Procedures and Expenses.....	17
12. Important Notes .....	17
13. Long-Term Study Program.....	18
14. Others.....	18
Application Qualifications (for October Enrollment).....	19
Information on the Long-Term Study Program.....	22
Handling of Personal Information .....	24
List of Instructors and Their Fields of Research .....	25

## **Overview of the Graduate School of Chemical Sciences and Engineering and the Division of Chemical Sciences and Engineering**

Hokkaido University reorganized the Department of Chemistry in its Graduate School of Science along with three chemistry-related divisions in its Graduate School of Engineering (the divisions of Chemical Process Engineering, Biotechnology and Macromolecular Chemistry, and Materials Chemistry) to form the Graduate School of Chemical Sciences and Engineering and the Division of Chemical Sciences and Engineering in April 2010 (admission quotas in master's course: 129; admission quotas in doctoral course: 38).

In the Graduate School of Chemical Sciences and Engineering, chemistry and biochemistry professors of science and engineering who are affiliated with the Faculty of Science, Faculty of Engineering, Research Institute for Electronic Science, Institute for Genetic Medicine, Institute for Catalysis, and the Institute for Chemical Reaction Design and Discovery work closely together on research and education activities. Researchers affiliated with the National Institute for Materials Science, National Institute of Advanced Industrial Science and Technology, and RIKEN participate as instructors in related fields. These diversely experienced instructors offer not only specialized lectures in the Molecular Chemistry and Engineering Course, Materials Chemistry and Engineering Course, and Biological Chemistry and Engineering Course established within the Division of Chemical Sciences and Engineering but also a rich diversity of classes, including lectures in English, such as those on basic specialized subjects of graduate school education in science and engineering fields. As a result, they are able to provide instruction and research guidance so that students will be able to view the field of chemistry from both the perspectives of science and engineering and contribute to society in related fields.

### **Admission Policy**

#### 1. Educational goals

By providing a systematic education that integrates research findings into the various fields of chemistry, such as molecular chemistry, materials chemistry, and biochemistry, the Graduate School of Chemical Sciences and Engineering strives to equip students with both basic and advanced, specialized knowledge in the field of chemistry; to cultivate individuals with broad-based knowledge, a strong sense of discernment, and the ability to use their knowledge in practical applications to meet the needs created by trends toward internationalization, advanced developments in science and technology, and interdisciplinary approaches; and to nurture students who have the depth of knowledge and skills necessary for conducting basic and applied research and who will therefore be well equipped to conduct innovative research going forward.

#### 2. Ideal student image

(Master's Course)

##### (1) Knowledge/skills

Prospective students are expected to have previously acquired advanced expertise in chemistry or related fields and undertaken original research and development.

##### (2) Critical-thinking, judgment, and expressive abilities

To respond to internationalization, the sophistication of science and technology, and interdisciplinization, the Graduate School requires prospective students to possess not only a basic background in related fields but also the motivation to acquire diverse knowledge and develop critical thinking, judgment abilities, and practical abilities.

##### (3) Collaboration

Prospective students are expected to be independent and motivated to learn and work in collaboration with people from various backgrounds.

##### (4) Prerequisites

Before enrolling in the Graduate School, students are expected to have knowledge and abilities at the undergraduate level in chemistry or related fields.

(Doctoral course)

(1) Knowledge/skills

Prospective students are expected to have previously acquired advanced expertise in chemistry or related fields and undertaken original research and development.

(2) Critical-thinking, judgment, and expressive abilities

To respond to internationalization, the sophistication of science and technology, and interdisciplinization, the Graduate School requires prospective students to possess not only a basic background in related fields but also the motivation to acquire diverse knowledge and develop critical thinking, judgment abilities, and practical abilities.

(3) Collaboration

Prospective students are expected to be independent and motivated to learn and work in collaboration with people from various backgrounds.

(4) Prerequisites

Before enrolling in the Graduate School, students are expected to have acquired knowledge and research abilities at the master's level in chemistry or related fields.

### 3. Basic policy for admission selection

At the Graduate School of Chemical Sciences and Engineering, we admit students who desire to specialize in the fields of science and engineering and obtain a master's or doctoral degree in the field of general chemistry, as well as students who seek a doctoral degree while working. Details such as the evaluation method are specified in the application guidelines. To measure language proficiency, which is indispensable for success on the international stage, we request the submission of scores for an English test that is conducted globally.

(1) Master's program

- General selection

Besides requiring comprehensive academic abilities related to the basics of chemistry, we conduct written and oral examinations related to specialization; evaluate basic specialized subjects in molecular chemistry, material chemistry, and biochemistry; and evaluate advanced, specialized knowledge in specialized subjects, as well as judgment ability and level of proficiency in the background of related fields, to ascertain practical ability. In addition, through oral examinations, we evaluate candidates' attitude of independence, willingness to collaborate with diverse people, motivation for the future, and ability to learn and research at the undergraduate level. Selection will be made by comprehensively judging the examination results, including language ability based on the English test score.

The written test may be exempted for those who have demonstrated excellent academic performance at their previous academic institution or who have outstanding achievements, such as research and development at companies.

- Entrance examination for international students

Considering the level of education overseas, we evaluate expertise and operational ability in basic or related fields of chemistry through an oral examination. Prospective students are expected to have an attitude of independence, be willing to collaborate with various people, and have motivation for the future. Language ability will also be evaluated based on the score of the English test.

(2) Doctoral program (general selection / examination for working adults / international student selection/ AGS selection)

An oral examination is conducted to evaluate expertise and operational ability in chemistry and related fields, as well as basic research abilities for advancing original research in the doctoral program, with the addition of presentation ability. Prospective students are expected to have an attitude of independence, be willing to collaborate with various people, and have motivation for the future. Language ability will also be evaluated based on the score of the English test.

# I. General Admission

**[Important]** There is a possibility that admission tests may be conducted with different contents from those described in this application guideline due to the effects of new coronavirus infections and other factors. If there are any changes, they will be posted on our homepage (<https://www.cse.hokudai.ac.jp>), so be sure to check our homepage regularly.

## 1. Admission Quotas

Division	No. of Admission Quota	School Web Site
Chemical Sciences and Engineering	129	<a href="http://www.cse.hokudai.ac.jp">www.cse.hokudai.ac.jp</a>

Note:

Please contact the research advisor of your first choice Research Lab for details about research field prior to your application.

## 2. Application Qualifications (for those who wish to be admitted in April 2024)

- (1) Individuals who have graduated or expect to graduate from a Japanese university by March 2024
- (2) Individuals who have been awarded or expect to be awarded a bachelor's degree pursuant to Article 104, Clause 7, of the School Education Act (Act No. 26, 1947) by March 2024 (hereinafter referred to as "individuals with a bachelor's degree from the National Institution for Academic Degrees and University Evaluation")
- (3) Individuals who have completed or expect to complete 16 years of school education in a foreign country by March 2024 (hereinafter referred to as "individuals from a foreign educational system")
- (4) Individuals who have completed or expect to complete 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country by March 2024 (hereinafter referred to as "individuals from a foreign educational system via correspondence course")
- (5) Individuals who have completed a coursework of a foreign university at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course or who expect to complete such coursework by March 2024 (The completion of the coursework needs to be considered equivalent to the completion of 16 years of school education in that foreign country. In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology.) (Hereinafter referred to as "individuals who have completed coursework in a school designated as equivalent to a university")
- (6) Individuals who have received, or are expected to receive by March 31, 2024, a degree equivalent to a bachelor's degree from a university or a school in a foreign country (as stipulated in Article 11, Item 5, either which has been evaluated by an authority certified by the government of the country concerned or an authority concerned in regard to the overall performance of its education and research activities, or which has been separately designated by the Minister of Education, Sports, Science and Technology as an educational establishment equivalent to the above) upon completion of a program or a course of study requiring 3 or more years (including completion of a correspondence course of a foreign institute taken in Japan, and completion of a course of study designated in the preceding item at a foreign educational establishment within the public education system of the country concerned).
- (7) Individuals who have completed a specialized course at a specialized training college on or after the date determined by the Japanese Minister of Education, Culture, Sports, Science, and

Technology (The course must be designated by the minister, and the course term must be four years or more. It also must meet other standards established by the minister.) and individuals who expect to complete such a course by March 2024.

(8) Individuals designated by the Minister of Education, Culture, Sports, Science, and Technology (1953 Notice No. 5, Ministry of Education, Science and Culture)

(9) Individuals who, by March 2024, have attended a Japanese university for three years or more or individuals who, as of March 2024, meet one of the following:

- Those who have completed 15 years of school education in a foreign country
- Those who have completed 15 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country
- Those who have completed a coursework of a foreign university at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course (The completion of the coursework needs to be considered equivalent to the completion of 15 years of school education in that foreign country. In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology)

Furthermore, all individuals who apply to this qualification need to be deemed by this graduate school to have achieved excellent grades in the subjects prescribed by Hokkaido University (hereinafter referred to as “individuals who apply through the early admission system”).

(10) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a Japanese university graduate based on an individualized admission qualification investigation and who will be 22 years of age as of March 31, 2024 (hereinafter referred to as “individuals who apply through an individualized admission qualification investigation”)

Notes:

1. See page 19 for application qualifications if you wish to be admitted in October 2023.
2. If you have any questions regarding the application qualifications contact the Administration Office of the Graduate School of Chemical Sciences and Engineering (hereafter referred to as “CSE office”).

### **3. Preliminary Review of Qualifications (Application Period, Etc.)**

**May 26 (Fri.) 9:00 a.m. – June 1 (Thu.) 5:00 p.m., 2023 (Japan Standard Time)**

We will conduct a preliminary review of application qualifications before the admission examination if applicants fall under one of the following categories:

(7) Individuals who have completed a specialized course at a specialized training college

(9) Individuals who apply through the early admission system

(10) Individuals who apply through an individualized admission qualification investigation

Individuals who fit one of the above-mentioned descriptions should submit Application Form of Preliminary Review of Qualifications and Resume (prescribed forms) and documents indicated in section 5 “Application Documents,” with the exception of item No. 1 (Admission application, resume, examination admission card, and examinee photo card), No.5 (English score reporting form and the score sheet of an English-language proficiency examination), No.6 (Envelope in which the examination admission card is to be mailed), and No.7 (Envelope to be used for the notification of examination results and other information) to the address specified in section “6. Where to Apply” by registered mail or bringing it to the office between the above-mentioned period. Applicants must contact the Administration Office ([c-sougou@cse.hokudai.ac.jp](mailto:c-sougou@cse.hokudai.ac.jp)) to request the application form well before the application deadline.

Notes:

The results of the preliminary review of application qualifications will be mailed out in mid-June 2023. Those who are deemed eligible to apply for the program must apply online (<https://e-apply.jp/e/hokudai-cse>), pay the examination fee as per section 4 “Application Method” and then mail required documents to the Administration Office.

Those who have passed the preliminary review of qualifications must submit documents listed in section No.1 (admission application, resume, examination admission card, and examinee photo card), No.5 (English score reporting form and the score sheet of an English-language proficiency examination), No.6 (Envelope in which the examination admission card is to be mailed), and No.7 (Envelope to be used for the notification of examination results and other information).

**Note that Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President’s Fellowship recipients (as well as those who are expecting to receive one of these scholarships) and Hokkaido University Special Grant Program international students (as well as those who are expecting to receive one of these scholarships) may be exempt from paying the examination fee. If there is a possibility that you will be eligible for an exemption, please contact the CSE office in advance.**

#### **4. Application Method**

Our application process consists of three steps: (1) online application (<https://e-apply.jp/e/hokudai-cse>), (2) payment of the examination fee, (3) submission of application documents by mail. If you fail to complete any of these steps in the required timeframe, your application will not be processed and will be cancelled.

#### **<<Online Application and Payment Period>>**

**June 13 (Tue.) 10:00 a.m. - June 27 (Tue.) 5:00 p.m., 2023 (Japan Standard Time)**

#### **<<Examination Fee>>**

Applicants are required to pay the examination fee (30,000 yen) after registering online. Applicants must pay a service fee of 500 yen in addition to the examination fee.

Available payment methods include: credit card; China Pay; convenience store; bank or post office ATM. Please note that applicants cannot make a payment for the fee through teller. For further details on payment methods, see the application website.

Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President’s Fellowship recipients (as well as those who are expecting to receive one of these scholarships) and Hokkaido University Special Grant Program international students (as well as those who are expecting to receive one of these scholarships) may be exempt from paying the examination fee. If there is a possibility that you will be eligible for an exemption, please contact the CSE office in advance.

The examination fee is non-refundable except for the following cases:

1. Applicants who paid the fee but cancelled their application (including cases where an application was rejected or application documents were not submitted by the deadline)
2. Applicants paid the fee more than once by mistake
3. Applicants who are exempt from the examination fee mistakenly paid the fee.

#### **<<Document Submission Period>>**

**June 20 (Tue.) - June 27 (Tue.), 2023**

After the payment of the examination fee, download the application form, resume, examination admission card, examinee photo card, English score report form and Research laboratory preference indication form as a PDF from the application website. Then, print single-sided and submit together with other application documents. Please note that these forms become available after you complete the payment of the examination fee.

When mailing the application documents, be sure to attach the mailing address label (appearing on the last page of the PDF) to the mailing envelope and send the documents by registered mail. The postmark deadline of submission is June 27 (Tue.). Please note that you cannot submit in-person at the Administration Office.

## 5. Application Documents

No.	Documents to Be Submitted	Application Qualifications				Notes
		(1) (2) (8)	(3) (4) (5) (6) (7)	(9)	(10)	
1	Admission application, resume, examination admission card, and examinee photo card	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Prescribed forms
2	Transcript from the applicant's (undergraduate) university or other school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Those who have graduated (or expect to graduate) from a college of technology should submit transcripts of general and advanced courses.
3	Certificate of graduation (or expected graduation) or completion (or expected completion)  * This is not required of graduates (or prospective graduates) or currently enrolled students of School of Science or School of Engineering, of Hokkaido University.	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	(a) Those who have graduated (or expect to graduate) from a college of technology should submit a certificate of diploma conferment issued by the National Institution for Academic Degree and University Evaluation or a certificate of expected application for diploma conferment issued by the president of the college of technology. (b) Those who graduated or will graduate from a university in People's Republic of China (excluding Hong Kong and Macau) must submit the following documents. Graduates: a. Online Verification Report of Higher Education Qualification Certificate (教育部学历证书电子注册备案表) b. Graduation Diploma (毕业证书) and Degree Diploma (学位证书) Expected Graduates: a. Online Verification Report of Student Record (教育部学籍在线验证报告) * Obtain documents "a" above by requesting it at "中国高等教育学历证书查询": <a href="https://www.chsi.com.cn/xlcx/bgys.jsp">https://www.chsi.com.cn/xlcx/bgys.jsp</a> . Also, be sure that there are 15 or more days left until the expiration date of the online verification at the time of its submission.
4	Certificate of enrollment			<input type="radio"/>		
5	English score reporting form and the score sheet of an English-language proficiency examination (TOEFL test or TOEIC test)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pursuant to section 7, "Submission of English Scores," applicants must submit the English score reporting form (prescribed form) and the score sheet of an English-language proficiency examination (TOEFL test or TOEIC test) taken in or after April 2021.

6	Envelope in which the examination admission card is to be mailed	○	○	○	○	Not required if applicants are not in Japan <ul style="list-style-type: none"> <li>• Prepare an envelope (120mm x 235mm).</li> <li>• Download the “Label for admission ticket” from our website and print it in color.</li> <li>• Please write your postal code, address and name. Also, please seal 354 yen stamp on the envelope.</li> </ul>
7	Envelope to be used for the notification of examination results and other information	○	○	○	○	Not required if applicants are not in Japan <ul style="list-style-type: none"> <li>• Prepare an envelope (240mm x 332mm).</li> <li>• Download the “Label for results notification” from our website and print it in color.</li> <li>• Please fill out your postal code, address and name. No need to attach stamps.</li> </ul>
8	Research laboratory preference indication form	○	○	○	○	Prescribed form Select and indicate the order of your field (lab) preferences (top five) from the “List of Instructors and Their Fields of Research.”
9	Letter of recommendation from your academic advisor at the last school attended, etc.			○		Unspecified format
10	Envelope in which preliminary review results are to be mailed to the applicant		△	○	○	Required only for Applicants of Preliminary Review of Application Qualifications (Not required if applicants are not in Japan) <ul style="list-style-type: none"> <li>• Prepare a self-addressed envelope (120mm x 235mm).</li> <li>• Please seal 84 yen stamp on the envelope.</li> </ul>
11	A copy of your Residence card or your foreign resident registration card	△	△	△	△	This is required only for international student applicants. Those who live outside of Japan should submit a copy of their passport.
12	Certificate of completion or withdrawal from a graduate school, and a graduate school transcript	△	△	△	△	This is required only for international student applicants who have been enrolled in a graduate school program at some point in the past.
13	Letter of approval for taking the entrance examination	△	△	△	△	Unspecified format This is required only for currently employed public officials who are expecting to remain employed while attending. The letter must be issued by someone who has authority over human resource matters at their place of employment.
14	A document verifying that the applicant possesses the equivalent or greater academic skill as that of a university graduate				○	Unspecified format Example: Documents explaining the applicant’s international activities, practical experience, history of learning languages, etc.; research papers; patent reports; documents indicating the acquisition of various certificates; and recommendation letters from relevant professors

**Note:** ○ indicates that the document is required;

△ indicates that the document only needs to be submitted by specified individuals.

## 6. Where to Apply

Administration Office, Graduate School of Chemical Sciences and Engineering, Hokkaido University  
(CSE Office)

Kita 13, Nishi 8, Kita-ku, Sapporo, 060-8628 Japan

Tel :(+81)-11-706-7247

## 7. Submission of English Scores

Submit your English score reporting form (prescribed form) at the time of application. Also, submit your English score sheets as follows.

Either of the English-language proficiency examination score sheets listed in (a) or (b) below, **from examinations taken in or after April 2021**. In the case of (c), please consult with CSE Office in advance.

(a) TOEFL test official score sheet

Submit a Test Taker Score Report sent to the examinee by the U.S. Educational Testing Service (ETS). A printout of test results posted online shall be considered invalid.

On the Score Report Preferences screen shown during the process of applying to take the TOEFL iBT test, be sure to select “Web-accessible Score Report and a printed copy mailed to you” to ensure that a Test Taker Score Report is mailed to you.

If you do not have a Score Report ready by the time that you apply for admission, please order a Test Taker Score Report from ETS and have it send out to you. And at the same time, please request an Official Score Report from ETS and have it send out to us the Graduate School of Chemical Sciences and Engineering, Hokkaido University. Our Institution code is C327.

The Test Taker Score Report may not be delivered to you within the application period, in which case by means of sending us the Official Score Report, a late submission will be accepted only if you have taken the test four weeks before the application deadline (Tuesday, May 30, 2023). When you order an additional Test Taker Score Report, it may not be delivered to you within the application period, in which case a late submission will be accepted only if you have already had ETS send us the Official Score Report four weeks before the application deadline (Tuesday, May 30, 2023).

Please note that once the Test Taker Score Report has been delivered to you, please submit it to the CSE office as soon as possible. You may send it by registered mail or bring it to the CSE office.

(b) TOEIC test score sheet

Submit the Official Score Certificate or printed Digital official Score Certificate.

(c) Those who have graduated from a university where English is the primary language of instruction may omit their score sheet by submitting a medium of instruction certificate from their degree granting university. For more details, please contact the Administration Office.

### Important Notes

(a) If you submit more than one score sheet, the best score submitted shall be used. Individuals who have already submitted scores at the time of application may submit new scores between July 27 (Thu.) 9:00 a.m. (JST) and July 31 (Mon.) 5:00 p.m. (JST), 2023, by registered mail or bringing it to the office.

(b) Scores for TOEFL ITP, TOEIC IP, TOEIC Bridge, etc. are invalid. However, a score from the

TOEIC IP test for special measures conducted at Graduate School of Chemical Sciences Engineering, on August 18, 2021 (Wednesday) is accepted.

(c) English score sheet will be returned after the exam date.

## 8. Selection Method

Admission decisions will be made comprehensively based on the examination results (written and oral), the score of TOEFL test/TOEIC test, academic transcript, etc.

## 9 Examination Schedule, Etc.

**August 8 (Tue.) - August 9 (Wed.), 2023**

Note:

The oral examination schedule, examination venue, and other details will be provided when the examination admission card is sent out.

Examination Date	Time	Examination Subject		Examination Venue
Aug. 8(Tue.)	9:30 a.m. to 12:00 noon	Written examination	Comprehensive basic subjects and specialized basic subjects	To be specified when the examination admission card is sent out
	1:30 to 4:00 p.m.	Written examination	Specialized subjects	
Aug.9(Wed.)	From 9:00 a.m. or from 1:00 p.m.	Oral examination		

Notes:

(1) If you have studied in a special program approved by the Graduate School of Chemical Sciences and Engineering, you may be exempt from taking the entrance examination. Also, the content of an applicant's academic transcripts may exempt them from taking the written examination. Those who are exempt shall be notified in mid-July.

(2) For details regarding examination topics, see **section 10, "Examination Subjects."**

## 10. Examination Subjects

Schedule	Examination Subject	Subject Category	
		Cluster A (Science)	Cluster B (Engineering)
Aug. 8(Tue.) 9:30 a.m. to 12:00 noon	Comprehensive Basic Subjects	Comprehensive Basic Chemistry (required)	
	Specialized Basic Subjects	Select 4 questions from among the 6 questions in 6 subjects. - Basic physical chemistry - Basic organic chemistry - Basic inorganic chemistry - Basic analytical chemistry - Basic biochemistry - Basic molecular biology	Select 2 subjects and 4 questions from among the 5 subjects and 10 questions. - Basic chemical engineering - Thermodynamics and reaction kinetics - Applied analytical chemistry - Applied organic chemistry - Biochemistry
Aug. 8(Tue.) 1:30 to 4:00 p.m.	Specialized Subjects	Select 4 questions from among the 8 questions in 6 subjects - Physical chemistry(2 questions) - Organic chemistry(2 questions) - Inorganic chemistry(1 question) - Analytical chemistry(1 question) - Biochemistry(1 question) - Molecular biology(1 question)	Select 2 of 6 subjects - Chemical engineering - Organic synthetic chemistry - Quantum chemistry - High polymer chemistry - Inorganic materials chemistry - Molecular bioengineering

- Notes: (1) The comprehensive basic subject section will ask general questions to assess the candidate's basic knowledge of chemistry. The same questions will be asked of those in both clusters A and B.
- (2) Applicants **must select their preferred subject category (cluster A or B) at the time of application**, and must take the tests of the selected subject category. **Applicants may not change their subject category after submitting their application.**

## 11. Announcement of the results

The examination admission numbers of those who passed the examination will be posted in the entrance hall of the School of Engineering and our website (<https://www.cse.hokudai.ac.jp/>) around 10:00 a.m. on **September 1 (Fri.), 2023**. In addition, all examinees will be notified of their results individually (results will not be provided over the phone).

## 12. Enrollment Procedures and Expenses

Details regarding enrollment procedures are provided in the notifications mailed to those who have been accepted.

Enrollment fee: ¥282,000

First semester tuition for academic year 2024: ¥267,900 (estimated)

Total annual amount: ¥535,800 (estimated)

Notes:

1. If any revision is made while the student is enrolled, the new amount will be applied from the time of the revision.
2. If the enrollment fee is not paid during the admission procedure period, the applicant will be treated as having no intent to enroll.
3. If tuition is not paid for one semester, the student will be expelled, and his/her record of enrollment will be deleted. If you are having problems paying tuition due to financial hardship, you may be eligible for a tuition exemption or deferral.

## 13. Important Notes

- (1) Be sure to bring your examination admission card with you on the day of the entrance examination and place it on your desk.
- (2) Incomplete applications may not be accepted. Be sure that there are no errors in your application.
- (3) If the name on your certificate of graduation or other documents is different from your current name, for example, your surname has changed, attach a certificate of family registry or other official document that verifies the change.
- (4) If any falsified information is found in the application documents, the applicant's admission may be revoked.
- (5) Our graduate school generally does not allow dual enrollment.

## 14. Long-Term Study Program

Our graduate school has a long-term study system. Those wishing to take advantage of this system should carefully read and follow the application instructions in the section entitled "Information on the Long-Term Study Program" on page 22.

## 15. Others

- (1) Examination admission cards will be sent out around in **mid-July 2023** to those whose applications have been accepted.
- (2) Applicants who are physically disabled and who may need special accommodations to take examinations and attend classes should notify the CSE office of their condition by June 27 (Tue.), 2023.

## II. International Student Admission

**[Important]** There is a possibility that admission tests may be conducted with different contents from those described in this application guideline due to the effects of new coronavirus infections and other factors. If there are any changes, they will be posted on our homepage (<https://www.cse.hokudai.ac.jp>), so be sure to check our homepage regularly.

### 1. Admission Quotas

Division	No. of Admission Quota	School Web Site
Chemical Sciences and Engineering	Several	<a href="http://www.cse.hokudai.ac.jp">www.cse.hokudai.ac.jp</a>

### 2. Application Qualifications (for those who wish to be admitted in April 2024)

Individuals who are recognized as possessing the skills and capabilities required based on a recommendation from a specialized professor (hereinafter referred to as “the prospective supervisor”) in our graduate school whom the applicant would like to have as his/her research advisor after enrollment and individuals who fulfill one of the following application qualifications:

- (1) Individuals who have completed or expect to complete 16 years of school education in a foreign country by March 2024.
- (2) Individuals who have completed or expect to complete 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country by March 2024.
- (3) Individuals who have completed a coursework of a foreign university at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course or who expect to complete such coursework by March 2024 (The completion of the coursework needs to be considered equivalent to the completion of 16 years of school education in that foreign country. In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology.)
- (4) Individuals who have received, or are expected to receive by March 31, 2024, a degree equivalent to a bachelor’s degree from a university or a school in a foreign country (as stipulated in Article 11, Item 5, either which has been evaluated by an authority certified by the government of the country concerned or an authority concerned in regard to the overall performance of its education and research activities, or which has been separately designated by the Minister of Education, Sports, Science and Technology as an educational establishment equivalent to the above) upon completion of a program or a course of study requiring 3 or more years (including completion of a correspondence course of a foreign institute taken in Japan, and completion of a course of study designated in the preceding item at a foreign educational establishment within the public education system of the country concerned).
- (5) Individuals who, by March 2024, have attended a university for three years or more or individuals who, as of March 2024, meet one of the following:
  - Those who have completed 15 years of school education in a foreign country
  - Those who have completed 15 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country
  - Those who have completed a coursework of a foreign country at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course (The completion of the coursework needs to be considered equivalent to the completion of 15 years of school education in that foreign country.

In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology.)

Furthermore, all individuals who apply to this qualification need to be deemed by this graduate school to have achieved excellent grades in the subjects prescribed by Hokkaido University

- (6) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a university graduate based on an individualized admission qualification investigation and who will be 22 years of age as of March 31, 2024

Notes:

1. **Applicants must contact their prospective supervisor in advance.**
2. **See page 19 for application qualifications if you wish to be admitted in October 2023.**
3. **If you have any questions regarding the application qualifications, contact the Administration Office of the Graduate School of Chemical Sciences and Engineering (hereafter referred to as “CSE office”).**

### **3. Preliminary Review of Qualifications (Application Period, Etc.)**

**May 26 (Fri.) 9:00 a.m. - June 1 (Thu.) 5:00 p.m., 2023 (Japan Standard Time)**

We will conduct a preliminary review of application qualifications before the admission examination if applicants fall under either (5) or (6).

Individuals who fit one of the categories must submit Application Form of Preliminary Review of Qualifications and Resume (prescribed forms) and documents indicated in section 5, “Application Documents,” with the exception of item No. 1 (Admission application, resume, examination admission card, and examinee photo card), No.5 (English score reporting form and the score sheet of an English-language proficiency examination), No.7 (Envelope in which the examination admission card is to be mailed), and No.8 (Envelope to be used for the notification of examination results and other information) to the address specified in section “6. Where to Apply” by registered mail or bringing it to the office between the above-mentioned period. Applicants must contact the Administration Office ([c-sougou@cse.hokudai.ac.jp](mailto:c-sougou@cse.hokudai.ac.jp)) to request the application form well before the application deadline.

Notes:

The results of the preliminary review of application qualifications will be mailed out in mid-June 2023. Those who are deemed eligible to apply for the program must apply online (<https://e-apply.jp/e/hokudai-cse>), pay the examination fee as per section 4 “Application Method” and then mail required documents to the Administration Office.

Those who have passed the preliminary review of qualifications must submit documents listed in section No.1 (admission application, resume, examination admission card, and examinee photo card), No.5 (English score reporting form and the score sheet of an English-language proficiency examination), No.7 (Envelope in which the examination admission card is to be mailed), and No.8 (Envelope to be used for the notification of examination results and other information)

**Note that Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President’s Fellowship recipients (as well as those who are expecting to receive one of these scholarships) and Hokkaido University Special Grant Program international students (as well as those who are expecting to receive one of these scholarships) may be exempt from paying the examination fee. If there is a possibility that you will be eligible for an exemption, please contact the CSE office in advance.**

#### **4. Application Method**

Our application process consists of three steps: (1) online application (<https://e-apply.jp/e/hokudai-cse>), (2) payment of the examination fee, (3) submission of application documents by mail. If you fail to complete any of these steps in the required timeframe, your application will not be processed and will be cancelled.

##### **<<Online Application and Payment Period>>**

**June 13 (Tue.) 10:00 a.m. - June 27 (Tue.) 5:00 p.m., 2023 (Japan Standard Time)**

##### **<<Examination Fee>>**

Applicants are required to pay the examination fee (30,000 yen) after registering online. Applicants must pay a service fee of 500 yen in addition to the examination fee.

Available payment methods include: credit card; China Pay; convenience store; bank or post office ATM. Please note that applicants cannot make a payment for the fee through teller. For further details on payment methods, see the application website.

Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President's Fellowship recipients (as well as those who are expecting to receive one of these scholarships) and Hokkaido University Special Grant Program international students (as well as those who are expecting to receive one of these scholarships) may be exempt from paying the examination fee. If there is a possibility that you will be eligible for an exemption, please contact the CSE office in advance.

The examination fee is non-refundable except for the following cases:

1. Applicants who paid the fee but cancelled their application (including cases where an application was rejected or application documents were not submitted by the deadline)
2. Applicants paid the fee more than once by mistake
3. Applicants who are exempt from the examination fee mistakenly paid the fee.

##### **<<Document Submission Period>>**

**June 20 (Tue.) - June 27 (Tue.), 2023**

After the payment of the examination fee, download the application form, resume, examination admission card, examinee photo card, and English score report form as a PDF from the application website. Then, print single-sided and submit together with other application documents. Please note that these forms become available after you complete the payment of the examination fee.

When mailing the application documents, be sure to attach the mailing address label (appearing on the last page of the PDF) to the mailing envelope and send the documents by registered mail. The postmark deadline of submission is June 27 (Tue.). Please note that you cannot submit in-person at the Administration Office.

## 5. Application Documents

No.	Documents to Be Submitted	Notes
1	Admission application, resume, examination admission card, and examinee photo card	Prescribed forms
2	A recommendation letter from your prospective supervisor	Unspecified format
3	A transcript from the applicant's (undergraduate) university	
4	A certificate of graduation (or expected graduation)	Those who graduated or will graduate from a university in People's Republic of China (excluding Hong Kong and Macau) must submit the following documents. Graduates: a. Online Verification Report of Higher Education Qualification Certificate (教育部学历证书电子注册备案表) b. Graduation Diploma (毕业证书) and Degree Diploma (学位证书) Expected Graduates: a. Online Verification Report of Student Record (教育部学籍在线验证报告) * Obtain documents "a" above by requesting it at "中国高等教育学历证书查询": <a href="https://www.chsi.com.cn/xlcx/bgys.jsp">https://www.chsi.com.cn/xlcx/bgys.jsp</a> . Also, be sure that there are 15 or more days left until the expiration date of the online verification at the time of its submission.
5	English score reporting form and the score sheet of an English-language proficiency examination (TOEFL test or TOEIC test)	Pursuant to section 7, "Submission of English Scores," applicants must submit the English score reporting form (prescribed form) and the score sheet of an English-language proficiency examination (TOEFL test or TOEIC test) taken in or after April 2021.
6	A recommendation letter from your academic advisor at the last university attended	This is not required for those who are currently enrolled, such as research students, who wish to study under the guidance of the same academic advisor after enrolling in the master's degree program.
7	Envelope in which the examination admission card is to be mailed	Not required if applicants are not in Japan • Prepare an envelope (120mm x 235mm). • Download the "Label for admission ticket" from our website and print it in color. • Please write your postal code, address and name. Also, please seal 354 yen stamp on the envelope.
8	Envelope to be used for the notification of examination results and other information	Not required if applicants are not in Japan • Prepare an envelope (240mm x 332mm). • Download the "Label for results notification" from our website and print it in color. • Please fill out your postal code, address and name. No need to attach stamps.
9	Envelope in which preliminary review results are to be mailed to the applicant	Required only for Applicants of Preliminary Review of Application Qualifications (Not required if applicants are not in Japan) • Prepare a self-addressed envelope (120mm x 235mm). • Please seal 84 yen stamp on the envelope.
10	Certificate of completion or withdrawal from a graduate school, and a graduate school transcript	This is required only if you had enrolled in a graduate school program in the past.
11	A copy of your Residence card or your foreign resident registration card	Those who live outside of Japan should submit a copy of their passport.
12	Other required documents from the accepting professor	

## 6. Where to Apply

Administration Office, Graduate School of Chemical Sciences and Engineering, Hokkaido University  
(CSE Office)

Kita 13, Nishi 8, Kita-ku, Sapporo, 060-8628 Japan

Tel: 011-706-7247

## 7. Submission of English Scores

Submit your English score reporting form (prescribed form) at the time of application. Also, submit your English score sheets as follows.

Either of the English-language proficiency examination score sheets listed in (a) or (b) below, **from examinations taken in or after April 2021**. In the case of (c), please consult with CSE Office in advance.

(a) TOEFL test official score sheet

Submit a Test Taker Score Report sent to the examinee by the U.S. Educational Testing Service (ETS). A printout of test results posted online shall be considered invalid.

On the Score Report Preferences screen shown during the process of applying to take the TOEFL iBT test, be sure to select “Web-accessible Score Report and a printed copy mailed to you” to ensure that a Test Taker Score Report is mailed to you.

If you do not have a Score Report ready by the time that you apply for admission, please order a Test Taker Score Report from ETS and have it send out to you. And at the same time, please request an Official Score Report from ETS and have it send out to us the Graduate School of Chemical Sciences and Engineering, Hokkaido University. Our Institution code is C327.

The Test Taker Score Report may not be delivered to you within the application period, in which case by means of sending us the Official Score Report, a late submission will be accepted only if you have taken the test four weeks before the application deadline (Tuesday, May 30, 2023). When you order an additional Test Taker Score Report, it may not be delivered to you within the application period, in which case a late submission will be accepted only if you have already had ETS send us the Official Score Report four weeks before the application deadline (Tuesday, May 30, 2023).

Please note that once the Test Taker Score Report has been delivered to you, please submit it to the CSE office as soon as possible. You may send it by registered mail or bring it to the CSE office.

(b) TOEIC test score sheet

Submit the Official Score Certificate or printed Digital official Score Certificate.

(c) Those who have graduated from a university where English is the primary language of instruction may omit their score sheet by submitting a medium of instruction certificate from their degree granting university. For more details, please contact the Administration Office.

### Important Notes

(a) If you submit more than one score sheet, the best score submitted shall be used. Individuals who have already submitted scores at the time of application may submit new scores between July 27 (Thu.) 9:00 a.m. (JST) and July 31 (Mon.) 5:00 p.m. (JST), 2023, by registered mail or bringing it to the office.

(b) Scores for TOEFL ITP, TOEIC IP, TOEIC Bridge, etc. are invalid. However, a score from the

TOEIC IP test for special measures conducted at Graduate School of Chemical Sciences Engineering, on August 18, 2021 (Wednesday) is accepted.

(c) English score sheet will be returned after the exam date.

## 8. Selection Method

Admission decisions will be made based on a comprehensive review of the applicant's knowledge of the subject matter, foreign language skills, etc.

## 9. Examination Schedule, Etc.

**August 8 (Tue.) and August 9 (Wed.), 2023**

Note:

The oral examination schedule, examination venue, and other details will be provided when the examination admission card is sent out.

Examination Date	Examination Subject	Examination Venue
Aug. 8 (Tue.) or Aug. 9 (Wed.)	Oral Examination	To be specified when the examination admission card is sent out

## 10. Announcements of the Result

The examination admission numbers of those who passed the examination will be posted in the entrance hall of the School of Engineering and our website (<https://www.cse.hokudai.ac.jp/>) around 10:00 a.m. on September 1 (Fri.), 2023. In addition, all examinees will be notified of their results individually (results will not be provided over the phone).

## 11. Enrollment Procedures and Expenses

Details regarding enrollment procedures are provided in the notifications mailed to those who have been accepted.

Enrollment fee: ¥282,000

First semester tuition for academic year 2024: ¥267,900 (estimated)

Total annual amount: ¥535,800 (estimated)

Notes:

1. If any revision is made while the student is enrolled, the new amount will be applied from the time of the revision.
2. If the enrollment fee is not paid during the admission procedure period, the applicant will be treated as having no intent to enroll.
3. If tuition is not paid for one semester, the student will be expelled, and his/her record of enrollment will be deleted. If you are having problems paying tuition due to financial hardship, you may be eligible for a tuition exemption or deferral.

## 12. Important Notes

- (1) Be sure to bring your examination admission card with you on the day of the entrance examination and place it on your desk.
- (2) Incomplete applications may not be accepted. Be sure that there are no errors in your application.
- (3) If any falsified information is found in the application documents, the applicant's admission may be revoked.
- (4) Our graduate school generally does not allow dual enrollment.

### **13. Long-Term Study Program**

Our graduate school has a long-term study system. Those wishing to take advantage of this system should carefully read and follow the application instructions in the section entitled “Information on the Long-Term Study Program” on page 22.

### **14. Others**

- (1) Examination admission cards will be sent out around in **mid-July 2023** to those whose applications have been accepted.
- (2) Applicants who are physically disabled and who may need special accommodations to take examinations and attend classes should notify the CSE office of their condition by June 27 (Tue.), 2023.

## Application Qualifications (for October Enrollment)

\*For any questions, please contact Administration Office at Graduate School of Chemical Science and Engineering

### I. General Admission

- (1) Individuals who have graduated or expect to graduate from a Japanese university by September 2023.
- (2) Individuals who have been awarded or expect to be awarded a bachelor's degree pursuant to Article 104, Clause 7, of the School Education Act (Act No. 26, 1947) by September 2023 (hereinafter referred to as "individuals with a bachelor's degree from the National Institution for Academic Degrees and University Evaluation")
- (3) Individuals who have completed or expect to complete 16 years of school education in a foreign country by September 2023 (hereinafter referred to as "individuals from a foreign educational system")
- (4) Individuals who have completed or expect to complete 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country by September 2023 (hereinafter referred to as "individuals from a foreign educational system via correspondence course")
- (5) Individuals who have completed a coursework of a foreign university at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course or who expect to complete such coursework by September 2023 (The completion of the coursework needs to be considered equivalent to the completion of 16 years of school education in that foreign country. In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology.)  
(Hereinafter referred to as "individuals who have completed coursework in a school designated as equivalent to a university")
- (6) Individuals who have received, or are expected to receive by September 30, 2023, a degree equivalent to a bachelor's degree from a university or a school in a foreign country (as stipulated in Article 11, Item 5, either which has been evaluated by an authority certified by the government of the country concerned or an authority concerned in regard to the overall performance of its education and research activities, or which has been separately designated by the Minister of Education, Sports, Science and Technology as an educational establishment equivalent to the above) upon completion of a program or a course of study requiring 3 or more years (including completion of a correspondence course of a foreign institute taken in Japan, and completion of a course of study designated in the preceding item at a foreign educational establishment within the public education system of the country concerned).
- (7) Individuals who have completed a specialized course at a specialized training college on or after the date determined by the Japanese Minister of Education, Culture, Sports, Science, and Technology (The course must be designated by the minister, and the course term must be four years or more. It also must meet other standards established by the minister.) and individuals who expect to complete such a course by September 2023.
- (8) Individuals designated by the Minister of Education, Culture, Sports, Science, and Technology (1953 Notice No. 5, Ministry of Education, Science and Culture)
- (9) Individuals who, by September 2023, have attended a Japanese university for three years or more or individuals who, as of September 2023, meet one of the following:
  - Those who have completed 15 years of school education in a foreign country

- Those who have completed 15 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country
- Those who have completed a coursework of a foreign university at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course (The completion of the coursework needs to be considered equivalent to the completion of 15 years of school education in that foreign country. In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology)

Furthermore, all individuals who apply to this qualification need to be deemed by this graduate school to have achieved excellent grades in the subjects prescribed by Hokkaido University (hereinafter referred to as “individuals who apply through the early admission system”).

- (10) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a Japanese university graduate based on an individualized admission qualification investigation and who will be 22 years of age as of September 30, 2023 (hereinafter referred to as “individuals who apply through an individualized admission qualification investigation”)

## **II. International Student Admission**

- (1) Individuals who have completed or expect to complete 16 years of school education in a foreign country by September 2023.
- (2) Individuals who have completed or expect to complete 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country by September 2023.
- (3) Individuals who have completed a coursework of a foreign university at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course or who expect to complete such coursework by September 2023 (The completion of the coursework needs to be considered equivalent to the completion of 16 years of school education in that foreign country. In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology.)
- (4) Individuals who have received, or are expected to receive by September 30, 2023, a degree equivalent to a bachelor’s degree from a university or a school in a foreign country (as stipulated in Article 11, Item 5, either which has been evaluated by an authority certified by the government of the country concerned or an authority concerned in regard to the overall performance of its education and research activities, or which has been separately designated by the Minister of Education, Sports, Science and Technology as an educational establishment equivalent to the above) upon completion of a program or a course of study requiring 3 or more years (including completion of a correspondence course of a foreign institute taken in Japan, and completion of a course of study designated in the preceding item at a foreign educational establishment within the public education system of the country concerned).
- (5) Individuals who, by September 2023, have attended a university for three years or more or individuals who, as of September 2023, meet one of the following:
  - Those who have completed 15 years of school education in a foreign country
  - Those who have completed 15 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country
  - Those who have completed a coursework of a foreign country at an educational institution in Japan that is positioned within the school education system of that foreign country as an educational body with a university course (The completion of the coursework needs to be

considered equivalent to the completion of 15 years of school education in that foreign country. In addition, the educational institution is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology.)

Furthermore, all individuals who apply to this qualification need to be deemed by this graduate school to have achieved excellent grades in the subjects prescribed by Hokkaido University

- (6) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a university graduate based on an individualized admission qualification investigation and who will be 22 years of age as of September 30, 2023.

# **Information on the Long-Term Study Program**

## **1. Overview**

This system is available to students who would not be able to complete the program within the standard course term (two years) due to full-time employment or other circumstances (including responsibilities related to the care of elderly or disabled family members or the raising of children) and therefore want a longer period of time to conduct their studies systematically. Students must file an application and may be approved for a systematically planned course of study (hereinafter referred to as “long-term study”) after an individual review.

## **2. Eligibility**

Individuals who are applying for the long-term study program must meet one of the terms listed below, be unable to make a commitment to full-time studies as a consequence of the circumstances described, and would therefore like to extend in advance the number of years over which they will conduct their studies (research).

- (1) Individuals who are engaged in full-time employment, such as those currently employed by government agencies or companies (excluding those who will continue to receive salaries while being relieved of their work duties), and self-employed individuals
- (2) Individuals who are engaged in temporary or part-time employment that is deemed by this graduate school to adversely affect their studies
- (3) Individuals who have responsibilities, such as raising children or caring for other family members, that are deemed by this graduate school to adversely affect their studies to the same degree as the responsibilities listed in item (2) above

## **3. Enrollment Period**

The allowable length of period under the long-term study program is up to four years for the master’s degree program. Study periods for long-term study applicants are approved in one-year increments.

The maximum length of enrollment (including the period for time off, etc.) for a student who has been approved for long-term study is up to an additional two years beyond the approved long-term study period in the master’s degree program, the same maximum length of time as students under the standard term of study.

The period of time off that this graduate school will allow is the same for students under either the standard term of study or long-term study program, i.e., two years for master’s students.

## **4. Application Procedures**

### **(1) Application Deadline**

In general, those wishing to apply for the long-term study program should apply at the time they submit their admission applications.

### **(2) Submission of Documents**

Submit the following documents to CSE Office

- (a) An application for long-term study (form 1)
- (b) A long-term study plan (form 2)
- (c) Documents verifying your reasons for needing long-term study approval

### (3) Review and Notification of Results

Applications for the long-term study program will be reviewed by the graduate school, and applicants will be notified of the results of that review with the notification of examination results.

## **5. Contraction or Extension of the Long-Term Study Period**

If deemed necessary by the graduate school, approval may be granted for a contraction or extension of the long-term study period once, and only once, during the student's period of enrollment. However, the long-term study period can only be contracted from four years to three years (one year beyond the standard two-year course term).

## **6. Tuition**

The tuition of students who have been approved for the long-term study program shall be calculated in annual amounts by dividing the total tuition for the standard term of study (annual tuition  $\times$  2 years) by the number of years for which the long-term study has been approved. In cases where the tuition amount is revised or a change to the long-term study period is approved, tuition will be recalculated at that time. However, any tuition already paid will not be adjusted retroactively.

**✖Be sure not to pay the tuition for your current term of study until you are notified of whether your application for the long-term study program or a change thereof has been approved.**

## **7. Other**

To request an application form or clarify any issues, contact CSE Office

## **Handling of Personal Information**

- (1) All personal information collected by Hokkaido University will be completely protected in compliance with the Act on the Protection of Personal Information Held by Independent Administrative Agencies, etc., and other related acts and pursuant to the Hokkaido University Personal Information Management Regulations.
- (2) Names, addresses, and other personal information provided to the university through application procedures will be used solely for (a) enrollee selection, (b) the announcement of exam results, (c) admission procedures, (d) surveys and research on enrollee selection methods, and (e) related processes.
- (3) Some of these processes may be outsourced by the university to a contracted service provider (hereinafter referred to as “contractor”). All or some of the personal information provided by applicants may be provided to the contractor only as needed to perform the tasks for which it has been contracted.
- (4) Personal information obtained through application procedures will be used only for those who are admitted for (a) school administration purposes (student registration, academic counseling, etc.), (b) student support services (health management, scholarship applications, etc.), and (c) tuition and other administrative purposes.
- (5) Of the personal information described in item (4) above, only names and addresses will be used to facilitate communication with students from the Hokkaido University Frontier Foundation and organizations related to Hokkaido University, such as (a) the Hokkaido University Athletic Union, and (b) the Hokkaido University School of Engineering and School of Science Alumni Association.

Graduate School of Chemical Sciences and Engineering, Hokkaido University

## List of Instructors and Their Fields of Research

Molecular Chemistry and Engineering Course					
No.	Laboratory	Staff		Research Contents	Faculty
<b>Microscopic Chemical Analyses Unit</b>					
01	Quantum Chemistry	Professor Associate Professor Assistant Professor	TAKETSUGU Tetsuya KOBAYASHI Masato IWASA Takeshi	Development of "Predictive" Chemical Theory for Reaction, Electron, and Spectroscopy and programs, as well as advanced computational chemistry applications. First-principle excited-state reaction dynamics, theory-guiding catalytic design with element strategy, development of a large-scale electronic structure theory, near-field molecular theory, reaction informatics.	Faculty of Science
02	Theoretical Chemistry	Professor	MAEDA Satoshi	Development of new theories and computational programs aimed at predicting reaction pathways in molecules and materials, and their applications. The main targets of the applications are organic reaction, photoreaction, enzyme reaction, catalysis, and crystal phase transition.	Faculty of Science
03	Physical Chemistry	Professor Lecturer Assistant Professor	MURAKOSHI Kei FUKUSHIMA Tomohiro Ruifeng ZHOU	Surface electrochemistry: detection, characterization and photoexcitation of target molecules on solid surfaces under electrochemical potential control for novel photoenergy conversion systems and interdigit devices. Electrochemical synthesis of nano-materials with well-defined defect density, heteroatom insertion, and chirality for novel catalysis.	Faculty of Science
04	Analytical Chemistry	Professor Associate Professor Assistant Professor	UENO Kosei RYUZAKI Sou IMAEDA Keisuke	Nanophotonics. Laser spectroanalytical chemistry and photochemistry of nanostructured materials in the minute spatial domain using laser and microspectroscopy. Chemical and biosensors using nanostructures.	Faculty of Science
<b>Fine Chemical Reactions Unit</b>					
05	Organic Reaction	Professor Associate Professor Assistant Professor	INOKUMA Yasuhide SENBOKU Hisanori YONEDA Tomoki	Synthetic chemistry, electroorganic synthesis, organofluorine chemistry Synthesis and structural analysis of unique functional molecules.	Faculty of Engineering
06	Organoelement Chemistry	Professor Associate Professor Associate Professor	ITO Hajime ISHIYAMA Tatsuo KUBOTA Koji	The research purpose of our laboratory is development of novel synthetic reactions, valuable catalytic process and new functional materials in the field of organoelement chemistry. We aim to challenge to establish a new chemistry frontier that includes organometallics, heteroatom chemistry and coordination chemistry.	Faculty of Engineering
07	Organic Synthesis	Professor Associate Professor Assistant Professor	OHKUMA Takeshi ARAI Noriyoshi YURINO Taiga	Molecular catalysis, catalytic asymmetric reactions, practical organic synthesis.	Faculty of Engineering
08	Organometallic Chemistry	Professor Associate Professor Assistant Professor Assistant Professor	SAWAMURA Masaya SHIMIZU Yohei MASUDA Yusuke Arteaga Arteaga FERNANDO	Catalyst design using supramolecules, solid surfaces, and light for the development of transformative chemical reactions. Quantum chemical calculations for exploring chemical reaction mechanisms and catalyst design.	Faculty of Science
09	Organic Chemistry I	Professor Associate Professor	SUZUKI Takanori ISHIGAKI Yusuke	Structural and physical organic chemistry on novel heat- and light-responsive redox systems and strained molecules.	Faculty of Science
10	Chemical Reaction Development	Professor Associate Professor Associate Professor Associate Professor Associate Professor Assistant Professor	Benjamin LIST Chung-Yang HUANG Pavel SIDOROV Mingoo JIN Min GAO AKAMA Tomoko	Design and discovery of chemical reactions using computational, informational, and experimental science. Development of novel reactions using organocatalysts. Development of materials and functional organic molecules. Prediction of chemical reactions based on chemical informatics. Development of automated reaction pathway search methods and electronic state dynamics simulation methods.	ICReDD
<b>Catalytic Reactions Unit</b>					
11	Catalytic Transformation	Professor Assistant Professor	FUKUOKA Atsushi Abhijit SHROTRI	Molecular design of heterogeneous catalysts and application to renewable energy and environmental protection. Depolymerization of biomass such as cellulose and chitin, low-temperature oxidation of ethylene and keeping freshness of vegetables and fruits, catalysis of mesoporous materials.	Institute for Catalysis
12	Macromolecular Science	Professor Associate Professor Assistant Professor	NAKANO Tamaki SONG Zhiyi BANDO Masayoshi	Design and synthesis of chiral polymers and supramolecular systems having innovative functions such as pharmaceutical activities, light emission, electronic and ionic conduction, separation, and catalytic activities focusing on helical polymers, $\pi$ -stacked polymers, liquid crystals, and biopolymers.	Institute for Catalysis
13	Catalyst Material	Professor Assistant Professor	SHIMIZU Kenichi TOYAO Takashi	Development of metal nanocluster catalyst for direct synthesis of chemicals. Development of supported metal catalysts for automobile emission control. Surface chemistry and surface spectroscopy for catalyst design.	Institute for Catalysis
14	Catalysis Theory	Professor Associate Professor	HASEGAWA Jun-ya IIDA Kenji	Theoretical and computational chemistry for catalysis. Analysis of potential energy surface and dynamics of catalytic reactions. Development of chemical concepts, theoretical and computational models, and first-principle molecular simulation method for catalytic reactions.	Institute for Catalysis
<b>Chemical Process Engineering Unit</b>					
15	Chemical System Engineering	Professor Assistant Professor	KIKUCHI Ryuji TADA Shohei	Energy carrier direct power generation fuel cells. Green hydrogen production catalysts and devices. Electrochemical synthesis of ammonia. Electrochemical conversion of methane and ethane to valuable chemicals. Valuable chemicals synthesis by CO <sub>2</sub> hydrogenation.	Faculty of Engineering
16	Material Design and Engineering	Professor Associate Professor Assistant Professor	MUKAI Shin NAKASAKA Yuta IWASA Nobuhiro	Material design and engineering, adsorption engineering, separation engineering, precise structural controlling of porous materials, development of new production systems of nanomaterials, development of devices for reaction and separation using nanomaterials, material recycling.	Faculty of Engineering
17	Catalytic Reaction Engineering	Associate Professor	OGINO Isao	Reaction engineering, design and tuning of structures and reactive microenvironments of catalysts and separation materials for sustainable chemical processes, microwave-assisted synthesis of solid catalysts and electrode materials	Faculty of Engineering
18	Chemical Energy Conversion Systems	Associate Professor	TSUBOUCHI Naoto	Clean carbon technology for efficient reduction of CO <sub>2</sub> emissions: fundamental research about advanced and novel technologies for biomass, low rank coals, heavy oil residues and low-valued natural gas.	Faculty of Engineering

※ Laboratory No.26, No.27, No.33~No.36, No.46 are not recruiting Master's Degree Program students.

Materials Chemistry and Engineering Course				
No.	Laboratory	Staff	Research Contents	Faculty
<b>Molecular Materials Chemistry Unit</b>				
19	Chemical Informatics	Professor TAKAHASHI Keisuke	Materials discovery through materials informatics. The aim of the research is to develop fully automated materials and catalysts using a combination of high-throughput experiments and calculations, with the integration of artificial intelligence.	Faculty of Science
20	Molecule & Life Nonlinear Science	Professor KOMATSUZAKI Tamiki Assistant Professor MIZUNO Yuta Assistant Professor NISHIMURA Goro	Practical-oriented theoretical chemistry. The fundamental principles of chance and necessity of chemical reactions, and new concepts and methodologies to bridge theory and experiments for biological molecular systems.	Research Institute for Electronic Science
<b>Inorganic Materials Chemistry Unit</b>				
21	Inorganic Chemistry	Professor MATSUI Masaki Associate Professor KOBAYASHI Hiroaki Assistant Professor NASU Akira Assistant Professor Yu SUN	Design and phase stability of inorganic solid state ionics materials for advanced battery applications. Crystal growth and surface morphology of less noble metal during the electrodeposition process.	Faculty of Science
22	Structural Inorganic Chemistry	Associate Professor HIGUCHI Mikio Associate Professor MASUBUCHI Yuji	Preparation of emerging functional ceramics, microstructure control of ceramics and their property evaluation, new oxynitrides for optical, electromagnetic and chemical application. Growth of oxide single crystals for optical devices.	Faculty of Engineering
23	Inorganic Synthesis Chemistry	Professor TADANAGA Kiyoharu Associate Professor MIURA Akira Assistant Professor FUJII Yuta	Development of functional inorganic materials using liquid phase. Preparation of nano-structured thin films and materials for energy conversion and storage by solution processes.	Faculty of Engineering
24	Solid State Chemistry	Professor SHIMADA Toshihiro Assistant Professor YOKOKURA Seiya	Synthesis and new functions of nano-structured solids and thin films including inorganic nanomaterials, organic semiconductors, spintronics devices and nanocarbons.	Faculty of Engineering
25	Nanostructured Functional Materials and Interfaces	Professor MATSUO Yasutaka	Fabrication and characterization of new optical and electrical functional materials and interfaces with nano-structures to realize a strong coupling with photon or electron. Development of biomimetic organic/inorganic hybrid materials.	Research Institute for Electronic Science
26	Nano Ceramics	Guest Professor KUWATA Naoaki	Design of nano/micro-structures, control of functional properties and analysis of ion dynamics of new functional ceramics and solid-state battery materials.	National Institute for Materials Science
27	Applied Materials Chemistry	Guest Professor KIJIMA Norihito Guest Professor SUE Kiwamu	Preparation of ceramics nanoparticles and their applications for biocatalysis and biosensing. Synthesis, crystal structure, and functional properties of inorganic materials for energy storage. Development of data-driven methods for continuous production of functional materials(nanoparticles, polymer composites, and chemicals)	National Institute of Advanced Industrial Science and Technology
<b>Frontier Materials Chemistry Unit</b>				
28	Electronic Materials Chemistry	Professor AOKI Yoshitaka Associate Professor TACHIKAWA Hiroto	Design of proton/hydride ion conductive inorganic materials and related all-solid-state energy conversion devices, and theoretical design of energy conversion/storage materials by computational chemistry.	Faculty of Engineering
29	Interfacial Electrochemistry	Professor HABAZAKI Hiroki Associate Professor FUSHIMI Koji Assistant Professor IWAI Mana Assistant Professor KITANO Sho	Electrochemical fabrication of nanostructure-controlled materials and thin films and their mechanistic understanding and functional applications, nano- and micro-electrochemical characterizations of advanced and practical materials, and electrochemical energy conversion and storage devices.	Faculty of Engineering
30	Advanced Materials Chemistry	Professor HASEGAWA Yasuchika Associate Professor KITAGAWA Yuichi Assistant Professor WANG Mengfei	Development of strong-luminescent and photofunctional advanced materials based on photochemistry and coordination chemistry.	Faculty of Engineering
31	Material Chemistry	Professor SADA Kazuki Associate Professor MIURA Atsushi Associate Professor KOBAYASHI Atsushi Assistant Professor MATSUOKA Keitaro Assistant Professor TUTUMI Takuro	Discovery of new physical phenomena and development of new functional materials through fabrication of complex systems beyond their hierarchy from nanometer to millimeter by controlling intermolecular interactions among chemical and biological components.	Faculty of Science
32	Interactive Functional Materials	Professor NAGASHIMA Kazuki Assistant Professor KHEMASIRI Narathon	Designed nanomaterials synthesis based on inorganic chemistry and nanomaterial chemistry, exploration of nanoscale functional properties, creation of novel nano/microdevices, and application to data science. Application examples include the artificial olfactory sensors and the exploitation of digitized odor information.	Research Institute for Electronic Science
<b>Functional Materials Chemistry Unit</b>				
33	Interfacial Energy Conversion Materials Chemistry	Guest Professor NOGUCHI Hidenori Guest Professor OKAMOTO Akihiro	Fundamental study of chemical-electric energy conversion, including novel batteries, fuel cell catalysts, and genetically-engineered microbial electrode catalysts. In situ determination of geometric, electronic, and molecular structures at solid/liquid interfaces and electron transfer dynamics by ultrafast laser spectroscopy.	National Institute for Materials Science
34	Superconducting Materials	Guest Professor YAMAURA Kazunari Guest Associate Professor TSUJIMOTO Yoshihiro	We aim to make materials based on quantum mechanics useful for society by searching for new materials and performing precise structural analysis and property evaluations. By using these techniques, we hope to create excellent quantum functional materials.	National Institute for Materials Science
35	Photo Functional Materials	Guest Professor SHIRAHATA Naoto	Controlling the fate of free-charge carriers generated in semiconductor nanocrystals through the sequential absorption of photons or under applied voltage determines their optical properties and device performances. In our lab, we start our work from the synthesis of the nanocrystals and we fabricate the cutting-edge devices with the nanocrystals for optoelectronics and bio applications.	National Institute for Materials Science
36	Nano-Assembled Materials Chemistry	Guest Professor YOSHIO Masafumi Guest Professor MASUDA Takuya	Development of nanostructured functional materials that contribute to highly efficient energy conversion devices such as fuel cells, lithium ion batteries, and actuators, and understanding of interfacial physicochemical phenomena by in-situ observation techniques.	National Institute for Materials Science

※Laboratory No.26, No.27, No.33~No.36, No.46 are not recruiting Master's Degree Program students.

Biological Chemistry and Engineering Course					
No.	Laboratory	Staff	Research Contents	Faculty	
<b>Biomolecular Chemistry Unit</b>					
37	Biological Chemistry	Professor	SAKAGUCHI Kazuyasu	Functional regulation of tumor suppressor-related proteins through post-translational modification and localization. Function and evolution of oligomeric structure in tumor suppressor protein p53. Regulation of differentiation, metabolism, and function in innate immune cells.	Faculty of Science
		Associate Professor	KAMADA Rui		
		Assistant Professor	NAKAGAWA Natsumi		
38	Biostructural Chemistry	Professor	ISHIMORI Koichiro	Functional and structural characterization and molecular design of proteins using spectroscopy.	Faculty of Science
		Associate Professor	UCHIDA Takeshi		
		Associate Professor	HARADA Jun		
		Assistant Professor	KAGEYAMA Yoshiyuki		
39	Bioorganic Chemistry	Professor	MURAKAMI Yota	Studies of structure-function of chromatin and chromosome, which is involved in maintenance and expression of genetic information; studies of regulatory mechanism of cell shape and movement.	Faculty of Science
		Professor	TAKAHASHI Masayuki		
		Lecturer	TAKAHATA Shinya		
40	Microsystem Chemistry	Professor	TOKESHI Manabu	Development of on-site analysis systems and functional nanoparticles using microfluidic devices and new measurement technologies.	Faculty of Engineering
		Associate Professor	MAEKI Masatoshi		
		Assistant Professor	ISHIDA Akihiko		
		Assistant Professor	HIBINO Mitsue		
<b>Biofunctional Chemistry Unit</b>					
41	Mechanistic Organic Chemistry	Professor	NAGAKI Aiichiro	Flash organic chemistry led by flow microreactor research, flash creation of functional molecules, creation of complex skeletal functional molecules led by the power of enzymes.	Faculty of Science
		Associate Professor	MINAMI Atsushi		
		Assistant Professor	MIYAGISHI Hiromichi		
42	Organic Chemistry II	Professor	TANINO Keiji	Total synthesis of natural products having a complex structure and novel bioactivities. Development of efficient methodologies and new reactions to construct polycyclic skeleton with various functional groups on the basis of carbocation chemistry, heteroatom chemistry, and organometallic chemistry.	Faculty of Science
		Associate Professor	SUZUKI Takahiro		
43	Chemistry of Molecular Assemblies	Associate Professor	SATO Shinichiro	Synthesis and computational chemistry of functional molecular assemblies based on soft matter such as synthetic polymers and carbohydrate chains.	Faculty of Engineering
		Associate Professor	YAMAMOTO Takuya		
44	Polymer Chemistry	Professor	SATOH Toshifumi	Synthetic and structure-property relationship studies of architecturally complex polymers; synthetic study and application of conductive polymers; synthetic study and application of functional block copolymers; development of environmentally benign polymer synthesis process; creation of environmentally benign polymers.	Faculty of Engineering
		Associate Professor	ISONO Takuya		
		Assistant Professor	LI Feng		
45	Biosynthetic Chemistry	Professor	MATSUMOTO Ken'ichiro	Biosynthesis of useful and unnatural chemicals using engineered biosynthetic systems, and in vitro evolution of enzymes to achieve the goal. The targets are biodegradable plastics, biocompatible polymers, chiral compounds, CO <sub>2</sub> fixation, lipid production and antibacterial lipid.	Faculty of Engineering
		Assistant Professor	HACHISUKA Shin-ichi		
46	Chemical Biotechnology	Guest Professor	HIRAISHI Tomohiro	Elucidation of reaction mechanism of bio-based polymer-degrading enzymes, and development of highly functional and efficient enzymes for biotechnological applications. Nucleic acid antibody. Macromolecular system for genetic diagnosis, structural and functional studies of DNA conjugates, and base-substituted type sensitive morphogenesis system.	RIKEN
		Guest Professor	FUJITA Masahiro		
<b>Cell Engineering Unit</b>					
47	Applied Biochemistry	Professor	DAIRI Tohru	Search for and characterization of novel primary/secondary metabolic pathways in microorganisms and their application for production of useful compounds by biosynthetic and metabolic engineering.	Faculty of Engineering
		Associate Professor	OGASAWARA Yasushi		
		Assistant Professor	SATOH Yasuharu		
48	Biomolecular Chemistry	Associate Professor	TAJIMA Kenji	Biopolymer Chemistry (Elucidation of cellulose synthetic mechanism in bacteria, Creation of eco-recycling polymer materials with high mechanical strength, and Mass production of nanocellulose by bacteria and its application), Cell processing engineering (process development with stem cells), Animal cell cultivation engineering for pharmaceuticals production, Bioanalytical chemistry (development of novel biochemical analysis systems using microdevices and molecular assemblies as reaction media).	Faculty of Engineering
		Associate Professor	TANI Hirofumi		
		Assistant Professor	FUJIWARA Masashi		
<b>Molecular Medical Biochemistry Unit</b>					
49	Signaling in Cancer and Immunology	Professor	TAKAOKA Akinori	Research on molecular mechanisms underlying cellular response to infection and cancer. (i) Pathogen recognition receptors (innate sensors) and their signaling pathways, (ii) Innate immune response against cancer	Institute for Genetic Medicine
		Associate Professor	SATO Seiichi		
		Assistant Professor	SUZUKI Hiraku		
50	Developmental Physiology	Professor	MOTEGI Fumio	Cell and developmental mechanisms underlying cell polarity, soma-germ fate dichotomy, asymmetric cell division, and morphogenesis. Development of new optical techniques for in vivo molecular imaging.	Institute for Genetic Medicine
		Lecturer	KIMURA Kenji		
		Lecturer	NISHIMURA Yukako		

※Laboratory No.26, No.27, No.33~No.36, No.46 are not recruiting Master's Degree Program students.