April 2021 and October 2020 Enrollment

Graduate School of Chemical Sciences and Engineering
Hokkaido University

Ph.D Program
(Doctoral Course)

Application Guidelines
(Including Working Adult Admission and 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 to prevent the spread of new coronavirus infection. If there are any changes, they will be posted on our homepage (http://www.cse.hokudai.ac.jp), so be sure to check our homepage regularly.

May 2020
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Prescribed Forms for the Graduate School of Chemical Sciences and Engineering (Enclosed)
① Admission application, resume, examination admission card, and examinee photo card
② Return envelope for examination admission card (requires ¥384 in postage)
③ Contact information stickers used to mail the notification of exam results and other information
④ Examination fee payment information (with prescribed payment slip)
⑤ Submission form for payment certificate
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, and the Institute for Catalysis 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, RIKEN, and the National Cerebral and Cardiovascular Center 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, but also a rich diversity of classes, including lectures in English. 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.

Educational Goals

By providing a systematic education that integrates research findings in 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.

Admission Policy

The Graduate School of Chemical Sciences and Engineering accepts talented applicants who want to learn about the specialized fields of science and engineering and earn their master’s or doctoral degrees in the field of integrated chemistry as well as applicants who want to earn their doctoral degrees while continuing their employment. The graduate school also actively accepts international students. Admission periods are in April and October.

The master’s course entrance examination consists of written and oral exams in specialized subjects. The examination is administered to measure the applicant’s level of knowledge in basic and specialized subjects in his/her field of specialization, but considerations are made to ensure that a wide variety of applicants is accepted.

The doctoral course entrance examination consists of an oral assessment to evaluate the applicant’s specialized knowledge and research skills.

Also, in order to demonstrate the required knowledge and skills of English language, applicants are required to provide the score report of English proficiency exam.

In both the master’s and doctoral courses, applicants with particularly remarkable academic transcripts or especially impressive research and development experience at their companies or institutions may be exempt from taking the written exam.
I. General Admission and Working Adult Admission

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1. Admission Quotas

<table>
<thead>
<tr>
<th>Division</th>
<th>No. of Admission Quota</th>
<th>School Web Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Sciences and Engineering</td>
<td>38</td>
<td><a href="http://www.cse.hokudai.ac.jp">www.cse.hokudai.ac.jp</a></td>
</tr>
</tbody>
</table>

Notes:

The number of admission quotas includes several slots for working adult and international student applicants.

Individuals expecting to remain employed at the time of admission may apply through the working adult admission process.

2. Application Qualifications (for those who wish to be admitted in April 2021)

(1) Individuals who have been awarded a master’s degree or professional degree from a Japanese university (the term “professional degree” used hereinafter shall refer to the professional degree prescribed in Article 5-2 of the Degree Regulations [Ordinance of the Ministry of Education, Science and Culture No. 9 of 1953] pursuant to stipulations in Article 104, Clause 3, of the School Education Act); this includes those who are expected to be awarded such a degree by March 2021.

(2) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree from a foreign university by March 2021. (hereinafter referred to as “individuals from a foreign educational system”)

(3) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree by March 2021 by taking a correspondence course in Japan offered by a foreign school (hereinafter referred to as “individuals from a foreign educational system via correspondence course”)

(4) Individuals who have completed a graduate school coursework of a foreign university at an educational institution in Japan and have been awarded a degree equivalent to a master’s degree or professional degree. The institution needs to be positioned within the school education system of that foreign country as an educational body with a graduate school course and is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology. This includes those who expect to be awarded such a degree by March 2021 (hereinafter referred to as “individuals who have completed coursework in a school designated as equivalent to a graduate school”).

(5) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree by March 2021 from the United Nations University as prescribed in Article 1(2) of the Act on Special Measures Incidental of Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Act No.72 of 1976), which was established under the December 11, 1972 resolution of the General Assembly of the United Nations (hereinafter referred to as “individuals from the UN University”).

(6) Individuals who have completed their formal education by taking a correspondence course
through a non-Japanese university, an educational institution which received the designation by (4), or the United Nations University, who have passed an examination or a screening equivalent to the regulations by Article 16.2 in Standards for the Establishment of Graduate Schools, and who are recognized to have an academic ability equivalent to Master’s degree holders by the Graduate School, or who will obtain it by March 2021 (hereinafter referred to as “individuals from a foreign university who have been passed a Qualifying Examination”).


(a) Those who have graduated from a university; have conducted research for two years or longer at a university, research institution, etc.; and are recognized by this graduate school as possessing equivalent or greater academic capabilities as those of a person who has a master’s degree based on its research achievements, etc.

(b) Those who have completed 16 years of school education in a foreign country or 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country; have conducted research for two years or longer at a university, research institution, etc.; and are recognized by this graduate school as possessing equivalent or greater academic capabilities as those of a person who has a master’s degree based on its research achievements, etc.

(8) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a person who has a master’s degree or professional degree based on an individualized admission qualification investigation and who will be 24 years of age as of March 31, 2021 (hereinafter referred to as “individuals who apply through an individualized admission qualification investigation”)

Notes:
1. See page 17 for application qualifications if you wish to be admitted in October 2020.
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 Application Qualifications (Application Period, Etc.)
May 29 (Fri.) through June 4 (Thu.), 2020

We will conduct a preliminary review of application qualifications before accepting applications from individuals applying based on the following qualifications:

(7) Individuals designated by the Minister of Education, Culture, Sports, Science, and Technology
(8) Individuals who apply through an individualized admission qualification investigation

Individuals applying based on the application qualifications listed above should submit the documents indicated in section 5, “Application Documents,” with the exception of item No. 2 (submission form for the validated portion of the prescribed payment slip), during this period.

The applicant should not pay the examination fee when requesting a preliminary review of application qualifications. The examination fee is to be paid as per instructions in the notes below. (Documents can be submitted from 9:00 a.m. to 5:00 p.m., on weekdays only. If you send your documents by postal mail, they must be received by the deadline indicated.)

Notes:
The results of the preliminary review of application qualifications will be mailed out around late June 2020. Those who are deemed eligible to apply should pay the examination fee as per section 7, “Examination Fee,” during the period indicated in section 4 “Application Period.” After payment is
made, please submit the validated portion (portion E) of the prescribed payment slip to the university. If you do not pay the examination fee by the deadline indicated, your application will not be processed.

Applicants residing outside Japan who are allowed to submit their applications via the Internet should follow the on-screen instructions to arrange payment of the examination fee and the administrative fee (¥500).

Note that Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President’s Fellowship recipients, 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 Period
June 23 (Tue.) through June 30 (Tue), 2020

Individuals applying based on application qualification (1), (2), (3), (4), (5), (6), listed in section 2, “Application Qualifications,” should submit the documents indicated in section 5, “Application Documents,” during this period.

If you send your documents by postal mail, they must be received by the deadline indicated. (Documents can be submitted between 9:00 a.m. and 5:00 p.m. on weekdays only.)
5. Application Documents

(1) Individuals wishing to apply through the general admission process should submit following documents.

<table>
<thead>
<tr>
<th>No</th>
<th>Documents to Be Submitted</th>
<th>Application Qualifications</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1) (2) (3) (4) (5) (6) (7) (8)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Admission application, resume, examination admission card, and examinee photo card</td>
<td>○ ○ ○</td>
<td>Prescribed forms</td>
</tr>
<tr>
<td>2</td>
<td>Submission form for the validated portion of the prescribed payment slip</td>
<td>○ ○ ○</td>
<td>Prescribed form (a) See section 7, “Examination Fee,” and complete the payment of the examination fee. (b) Payment of entrance examination fee is not required for Japanese government (MEXT) scholarship students and students who have completed a master’s course and continue to study in the doctoral course etc.</td>
</tr>
<tr>
<td>3</td>
<td>Summary of your master’s thesis or an abstract of your research achievements</td>
<td>○ ○</td>
<td>(a) Those who have been awarded any master’s degree or any professional degree should provide a summary of their master’s thesis or other materials equivalent to a master’s thesis (unspecified format, approximately two A4-sized pages). (b) Those expecting to be awarded a master’s degree should provide an abstract of the research conducted over the course of their master’s program (up to 3,000 characters) or other equivalent materials.</td>
</tr>
<tr>
<td>4</td>
<td>List of research achievements and copies of key research papers</td>
<td>○</td>
<td>Unspecified format</td>
</tr>
<tr>
<td>5</td>
<td>Certificate verifying your research history</td>
<td>○</td>
<td>Unspecified format This certificate is to be issued by the university dean or research institute director or your research advisor and indicates your research topic and period of research.</td>
</tr>
<tr>
<td>6</td>
<td>Transcript from the applicant’s (undergraduate) university and graduate school attended</td>
<td>○ ○ ○</td>
<td>(a) This is not required of graduates of the Graduate School of Chemical Sciences of Hokkaido University. (b) Individuals applying based on the application qualification (8) must submit their transcript from the last school attended.</td>
</tr>
<tr>
<td>No</td>
<td>Documents to Be Submitted</td>
<td>Application Qualifications</td>
<td>Notes</td>
</tr>
<tr>
<td>----</td>
<td>---------------------------</td>
<td>---------------------------</td>
<td>-------</td>
</tr>
</tbody>
</table>
| 7  | Certificate of graduate school completion (or expected completion) or a degree certificate | (1) O (2) O (3) O (4) O (5) O | (a) Those who graduated or will graduate from a graduate school in China (excluding Taiwan, Hong Kong and Macau) must submit the following documents in addition to a Certificate of (Expected) Graduation. Graduates:  
  b. Graduation Diploma (毕业证书) and Degree Diploma (学位证书)  
   Expected Graduates:  
  a. Online Verification Report of Student Record  
   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. (b) Individuals applying based on the application qualification (6) must submit a confirmation letter pertaining to the Qualifying Examination. |
| 8  | Envelope in which the examination admission card is to be mailed | (1) O (2) O (3) O | Prescribed envelope  
   (a) Write your name, address, and postal code on the envelope provided and affix ¥384 worth of postage stamps to it.  
   (b) If your address changes after you submit your application, be sure to inform the CSE office. |
| 9  | Contact information stickers used to mail the notification of examination results and other information | (1) O (2) O (3) O | Prescribed form  
   (a) Write your name, address, and postal code on the stickers.  
   (b) If your address changes after you submit your application, be sure to inform the CSE office. |
| 10 | Envelope in which preliminary review results are to be mailed to the applicant | (1) △ (2) △ (3) △ | *Only for Individuals applying based on the application qualification (7), (8)  
   A standard-sized, self-addressed envelope bearing ¥84 in postage is required. |
| 11 | A copy of your Residence card | (1) △ (2) △ (3) △ | This is required only for international student applicants. Those who live outside of Japan should submit a copy of their passport. |

**Note:**  
O indicates that the document is required;  
△ indicates that the document only needs to be submitted by specified individuals.
(2) **Working adult applicants** should submit the following documents:

<table>
<thead>
<tr>
<th>No</th>
<th>Documents to Be Submitted</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Admission application, resume, examination admission card, and examinee photo card</td>
<td>Prescribed forms</td>
</tr>
<tr>
<td>2</td>
<td>Letter of approval for taking the entrance examination</td>
<td>Unspecified format This is required only for those who are currently employed as public officials. The letter must be issued by someone who has authority over human resource matters at their place of employment.</td>
</tr>
<tr>
<td>3</td>
<td>Submission form for the validated portion of the prescribed payment slip</td>
<td>Prescribed form (a) See the section 7, “Examination Fee,” and complete the payment of the examination fee. (b) Those applying based on application qualification (1) (see section 2, “Application Qualifications”) should submit this form along with their applications. Other applicants should complete the payment in accordance with the “Notes” in section 3, “Preliminary Review of Application Qualifications (Application Period, Etc.),” and submit this form within the period shown in the section 4, “Application Period.”</td>
</tr>
<tr>
<td>4</td>
<td>List of research achievements and copies of key research papers</td>
<td>Unspecified format</td>
</tr>
<tr>
<td>5</td>
<td>Certificate verifying your research history</td>
<td>Unspecified format This certificate is to be issued by the university dean or research institute director or your research advisor and indicates your research topic and period of research.</td>
</tr>
<tr>
<td>6</td>
<td>Transcript from the last school attended (university or higher)</td>
<td>This is not required of graduates of the Graduate School of Chemical Sciences and Engineering of Hokkaido University.</td>
</tr>
<tr>
<td>7</td>
<td>Certificate of graduate school completion or a degree certificate</td>
<td>(a) Those who graduated or will graduate from an educational Institution in China (excluding Taiwan, Hong Kong and Macau) in their most recent academic history must submit the following documents in addition to a Certificate of (Expected) Graduation. 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="http://www.chsi.com.cn/xlcx/bgys.jsp">http://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. (b) Individuals applying based on the application qualification (6) must submit a confirmation letter pertaining to the Qualifying Examination.</td>
</tr>
<tr>
<td>8</td>
<td>Envelope in which the examination admission card is to be mailed</td>
<td>Prescribed envelope (a) Write your name, address, and postal code on the envelope provided and affix ¥384 worth of postage stamps to it. (b) If your address changes after you submit your application, be sure to inform the CSE office.</td>
</tr>
<tr>
<td>9</td>
<td>Contact information stickers used to mail the notification of examination results and other information</td>
<td>Prescribed form (a) Write your name, address, and postal code on the stickers. (b) If your address changes after you submit your application, be sure to inform the CSE office.</td>
</tr>
</tbody>
</table>
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) -11-706-7246
Note:
If your application is submitted by postal mail, be sure to use registered mail and write “Graduate School Admission Application” in red on the front of the envelope.

7. Examination Fee
¥30,000
(a) Not required of individuals expecting to complete a master’s degree program or a professional degree program in any of graduate schools of Hokkaido University.
(b) Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President’s Fellowship recipients, 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.
(c) Applicants should pay the examination fee at a bank or other financial institution (including Japan Post Bank) in Japan using the enclosed prescribed payment slip and attach the validated portion (portion E) of the payment slip to the submission form. Applicants residing outside Japan and admitted to apply via Internet should follow the on-screen instructions to arrange for the payment of the examination fee and the administrative fee (¥500).
(d) In principle, entrance examination fees are not refundable. Only the following cases are refundable:
• If an individual paid the examination fee but did not apply for admission (did not submit an application or submitted an application that was not accepted)
• If the examination fee was accidentally paid twice
• If an individual, who is not required to pay the examination fee has made payment.

8. Submission of English Scores
It is not necessary to submit the score sheet of the English external examination.

9. Selection Method
Admission decisions will be made based on a comprehensive review (oral examination, etc.) of the applicant’s master’s thesis or equivalent paper and the applicant’s knowledge of the subject matter.
For working adult applicants, the review of the applicant’s knowledge of the subject matter will be replaced with a review (oral examination, etc.) of the results of the applicant’s research conducted as a working adult.
## 10. Examination Schedule, Etc.

**August 20 (Thu.) or August 21 (Fri.), 2020**

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

<table>
<thead>
<tr>
<th>Examination Date</th>
<th>Time</th>
<th>Examination Subject</th>
<th>Examination Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 20 (Thu.) or Aug. 21 (Fri.)</td>
<td>From 9:00 a.m. or from 1:00 p.m.</td>
<td>Oral examination</td>
<td>To be specified when the examination admission card is sent out</td>
</tr>
</tbody>
</table>

## 11. 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, the first-floor hall of the School of Science Bldg. 2, and the first-floor hall of the School of Engineering’s Materials Engineering and Chemistry Bldg. at 10:00 a.m. (tentatively) on **September 3 (Thu.), 2020**. In addition, all examinees will be notified of their results individually.

(Information about whether an applicant has passed or failed the examination 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

**Note:**

*Not required of students continuing into this doctoral course from a master’s degree program or professional degree program in a graduate school of Hokkaido University.*

First semester tuition for academic year 2021: ¥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

The long-term study program is available to students who want to study systematically over a period of time longer than the standard course term (three years for a doctoral course) due to full-time employment or other circumstances that limit the time to attend classes and conduct research. Students must apply for this program and receive the approval from the graduate school. Once approved, the student will pursue a systematic course of study over a specified length of time. 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 20. Be sure to consult with your prospective academic advisor in advance regarding this program.

15. Others

(1) Examination admission cards will be sent out in mid-July 2020 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 July 2 (Tue.), 2020.

(3) If you wish to receive a copy of the application guidelines by mail, send a self-addressed stamped envelope with your request. (The envelope should be large enough to fit an A4-sized booklet and be stamped with ¥250 worth of postage stamps or ¥540 if you prefer express delivery.) Address the outer envelope to the Graduate School of Chemical Sciences and Engineering Administration Office and write “Request for Ph.D Program Application Guidelines” in red on the front. Also, enclose a note indicating the telephone number where you can be reached.

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)-11-706-7246
II. International Student Admission

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1. Admission Quotas

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

2. Application Qualifications (for those who wish to be admitted in April 2021)

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 this 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 been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree from a foreign university by March 2021.

(2) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree by March 2021 by taking a correspondence course in Japan offered by a foreign school.

(3) Individuals who have completed a graduate school coursework of a foreign university at an educational institution in Japan and have been awarded a degree equivalent to a master’s degree or professional degree. The institution needs to be positioned within the school education system of that foreign country as an educational body with a graduate school course and is required to be designated by the Japanese minister of education, culture, sports, science, and technology. This includes those who are expected to be awarded such a degree by March 2021.

(4) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree by March 2021 from the United Nations University as prescribed in Article 1(2) of the Act on Special Measures Incidental of Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Act No.72 of 1976), which was established under the December 11, 1972 resolution of the General Assembly of the United Nations.

(5) Individuals who have completed their formal education by taking a correspondence course through a non-Japanese university, an educational institution which received a designation by (3), or the United Nations University, who have passed an examination or a screening equivalent to the regulations by Article 16.2 in Standards for the Establishment of Graduate Schools, and who are recognized to have an academic ability equivalent to Master’s degree holders by the Graduate School, or who will obtain it by March 2021.

(6) Individuals designated by the Minister of Education, Culture, Sports, Science, and Technology (1989 Notice No. 118, Ministry of Education, Science and Culture), i.e., individuals who have completed 16 years of school education in a foreign country or 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country; have conducted research for two years or longer at a university, research institution, etc.; and are recognized by this graduate school as possessing equivalent or greater academic capabilities as those of a person who has a master’s degree based on its research findings, etc.
(7) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a person who has a master’s degree or professional degree based on an individualized admission qualification investigation and who will be 24 years of age as of March 31, 2021.

Notes:
1. Applicants must contact their prospective supervisor in advance.
2. See page 17 for application qualifications if you wish to be admitted in October 2020.
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 Application Qualifications (Application Period, Etc.)
May 29 (Fri.) through June 4 (Thu.), 2020
We will conduct a preliminary review of application qualifications before accepting applications from individuals applying based on the following qualifications: (6), (7). The applicants should submit the documents indicated in section 5, “Application Documents,” with the exception of item No. 2 (submission form for the validated portion of the prescribed payment slip), during this period.

The applicant should not pay the examination fee when requesting a preliminary review of application qualifications. The examination fee is to be paid as per instructions in the notes below. (Documents can be submitted from 9:00 a.m. to 5:00 p.m., on weekdays only. If you send your documents by postal mail, they must be received by the deadline indicated.)

Notes:
The results of the preliminary review of application qualifications will be mailed out around late June 2020. Those who are deemed eligible to apply should pay the examination fee as per section 7, “Examination Fee,” during the period indicated in section 4, “Application Period.” After payment is made, please submit the validated portion (portion E) of the prescribed payment slip to the university. If you do not pay the examination fee by the deadline indicated, your application will not be processed.

Applicants residing outside Japan who are allowed to submit their applications via the Internet should follow the on-screen instruction to arrange payment of the examination fee and the administrative fee (¥500).

Note that Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President’s Fellowship recipients, 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 Period
June 23 (Tue.) through June 30 (Tue.), 2020
If you send your application by mail, it must be received during this application period. (Documents can be submitted between 9:00 a.m. and 5:00 p.m. on weekdays only.)
5. Application Documents

<table>
<thead>
<tr>
<th>No.</th>
<th>Documents to Be Submitted</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Admission application, resume, examination admission card, and examinee photo card</td>
<td>Prescribed forms</td>
</tr>
<tr>
<td>2</td>
<td>Submission form for the validated portion of the prescribed payment slip</td>
<td>Prescribed form Complete the payment in accordance with the “Notes” in section 3, “Preliminary Review of Application Qualifications (Application Period, Etc.)” and submit this form within the period shown in section 4, “Application Period.”</td>
</tr>
<tr>
<td>3</td>
<td>A recommendation letter from your prospective supervisor</td>
<td>Unspecified format</td>
</tr>
</tbody>
</table>
| 4   | Summary of your master’s thesis or an abstract of your research achievements               | (a) Those who have been awarded any master’s degree or any professional degree should provide a summary of their master’s thesis or other materials equivalent to a master’s thesis (unspecified format, approximately two A4-sized pages).  
(b) Those expecting to be awarded a master’s degree should provide an abstract of the research conducted over the course of their master’s program (up to 3,000 characters) or other equivalent materials. |
| 5   | A transcript from the applicant’s (undergraduate) university and graduate school attended |                                                                      |
| 6   | A certificate of graduation from your (undergraduate) university and a certificate of graduate school completion (or expected completion) or a degree certificate | *If you are relevant to the both (a) and (b), summit all of the required documents according to (a) and (b)  
(a) Those who graduated from a university in China (excluding Taiwan, Hong Kong and Macau) must submit the following documents in addition to a Certificate of (Expected) Graduation.  
Graduates:  
b. Graduation Diploma (毕业证书) and Degree Diploma (学位证书)  
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.  
(b) Those who graduated or will graduate from a graduate school in China (excluding Taiwan, Hong Kong and Macau) must submit the following documents in addition to a Certificate of (Expected) Graduation.  
Graduates:  
a. Online Verification Report of Student Record (教育部学籍在线验证报告)  
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)  
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.  
(c) Individuals applying based on the application qualification (5) must submit a confirmation letter pertaining to the Qualifying Examination. |
<table>
<thead>
<tr>
<th>No.</th>
<th>Documents to Be Submitted</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Letter of recommendation from your academic advisor at the last school attended</td>
<td>Unspecified format                                                                                                                                      This is not required for those who are currently enrolled in Hokkaido University, and wish to study under the guidance of the same academic supervisor after enrolling in the doctoral course.</td>
</tr>
</tbody>
</table>
| 8   | Envelope in which the examination admission card is to be mailed                          | Prescribed envelope (not required for those who live outside of Japan)                                                                                                    (a) Write your name, address, and postal code on the envelope provided and affix ¥384 worth of postage stamps to it.  
(b) If your address changes after you submit your application, be sure to inform the CSE office. |
| 9   | Contact information stickers used to mail the notification of examination results and other information | Prescribed form (not required for those who live outside of Japan)                                                                                                    (a) Write your name, address, and postal code on the stickers.  
(b) If your address changes after you submit your application, be sure to inform the CSE office. |
| 10  | Envelope in which preliminary review results are to be mailed to the applicant          | (Not required for those who live outside of Japan)                                                                                                         A standard-sized, self-addressed envelope bearing ¥84 in postage is required. |
| 11  | A copy of your Residence 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: (+81)-11-706-7246

Note:
If your application is submitted by postal mail, **be sure to use registered mail and write “Graduate School Admission Application” in red** on the front of the envelope.

7. Examination Fee
¥30,000
(a) Japanese government (MEXT) scholarship students, China Scholarship Council (CSC) supported students, Hokkaido University President’s Fellowship recipients, 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.
(b) Applicants should pay the examination fee at a bank or other financial institution (including Japan Post Bank) in Japan using the enclosed prescribed payment slip and attach the validated portion (portion E) of the payment slip to the submission form. Applicants residing outside Japan and admitted to apply via Internet should follow the on-screen instructions to arrange for payment of examination fee and the administrative fee (¥500).
(c) Examination fees already paid will not be refunded for any reason except as follows:
• If an individual paid the examination fee but did not apply for admission (did not submit an application or submitted an application that was not accepted)
• If the examination fee was accidentally paid twice
(d) In principle, entrance examination fees are not refundable. Only the following cases are refundable:
• If an individual paid the examination fee but did not apply for admission (did not submit an application or submitted an application that was not accepted)
• If the examination fee was accidentally paid twice
• If an individual, who is not required to pay the examination fee has made payment.

Note:
For more detailed information on the methods of paying the examination fee, contact your accepting professor.

8. Submission of English Scores
It is not necessary to submit the score sheet of the English external examination.

9. Selection Method
Admission decisions will be made based on a comprehensive review (oral examination, etc.) of the applicant’s master’s thesis or equivalent paper and the applicant’s knowledge of the subject matter.

If you apply for a special program approved by the Graduate School of Chemical Sciences and Engineering, you may be exempt from taking the entrance examination, and thus may only be subject to the document review.

10. Examination Schedule, Etc.
August 8 (Thu.) and August 9 (Fri.), 2020
Examination subjects are based on the general admission.

11. 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, the first-floor hall of the School of Science Bldg. 2, and the first-floor hall of the School of Engineering’s Materials Engineering and Chemistry Bldg. at 10:00 a.m. (tentatively) on August 29 (Thu.), 2020. In addition, all examinees will be notified of their results individually.

(Information about whether an applicant has passed or failed the examination 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 2021: ¥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 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.

14. Long-Term Study Program
Our graduate school has a long-term study program. 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 20.

15. Others
(1) Examination admission cards will be sent out around in mid-July 2020 to those whose applications have been accepted (with the exception of those who are applying for a special program approved by this graduate school).
(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 30 2 (Tue.), 2020.

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)-11-706-7246
Application Qualifications (for October Enrollment)

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

I. General Admission and Working Adult Admission

(1) Individuals who have been awarded a master’s degree or professional degree from a Japanese university (the term “professional degree” used hereinafter shall refer to the professional degree prescribed in Article 5-2 of the Degree Regulations [Ordinance of the Ministry of Education, Science and Culture No. 9 of 1953] pursuant to stipulations in Article 104, Clause 3, of the School Education Act); this includes those who are expected to be awarded such a degree by September 2020.

(2) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree from a foreign university by September 2020. (hereinafter referred to as “individuals from a foreign educational system”)

(3) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree by September 2020 by taking a correspondence course in Japan offered by a foreign school (hereinafter referred to as “individuals from a foreign educational system via correspondence course”)

(4) Individuals who have completed a graduate school coursework of a foreign university at an educational institution in Japan and have been awarded a degree equivalent to a master’s degree or professional degree. The institution needs to be positioned within the school education system of that foreign country as an educational body with a graduate school course and is required to be designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology. This includes those who expect to be awarded such a degree by September 2020 (hereinafter referred to as “individuals who have completed coursework in a school designated as equivalent to a graduate school”).

(5) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree by September 2020 from the United Nations University as prescribed in Article 1(2) of the Act on Special Measures Incidental of Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Act No.72 of 1976), which was established under the December 11, 1972 resolution of the General Assembly of the United Nations (hereinafter referred to as “individuals from the UN University”).

(6) Individuals who have completed their formal education by taking a correspondence course through a non-Japanese university, an educational institution which received the designation by (4), or the United Nations University, who have passed an examination or a screening equivalent to the regulations by Article 16.2 in Standards for the Establishment of Graduate Schools, and who are recognized to have an academic ability equivalent to Master’s degree holders by the Graduate School, or who will obtain it by September 2020 (hereinafter referred to as “individuals from a foreign university who have been passed a Qualifying Examination”).


(a) Those who have graduated from a university; have conducted research for two years or longer at a university, research institution, etc.; and are recognized by this graduate school as possessing equivalent or greater academic capabilities as those of a person who has a master’s degree based on its research achievements, etc.

(b) Those who have completed 16 years of school education in a foreign country or 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a
school of that foreign country; have conducted research for two years or longer at a university, research institution, etc.; and are recognized by this graduate school as possessing equivalent or greater academic capabilities as those of a person who has a master’s degree based on its research achievements, etc.

(8) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a person who has a master’s degree or professional degree based on an individualized admission qualification investigation and who will be 24 years of age as of September 30, 2020 (hereinafter referred to as “individuals who apply through an individualized admission qualification investigation”)

II. International Student Admission

Individuals who are recognized as possessing the skills and capabilities required based on a recommendation from a specialized professor (hereinafter referred to as “the accepting professor”) in this 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 been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree from a foreign university by September 2020.
(2) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree or professional degree by September 2020 by taking a correspondence course in Japan offered by a foreign school
(3) Individuals who have completed a graduate school coursework of a foreign university at an educational institution in Japan and have been awarded a degree equivalent to a master’s degree or professional degree. The institution needs to be positioned within the school education system of that foreign country as an educational body with a graduate school course and is required to be designated by the Japanese minister of education, culture, sports, science, and technology. This includes those who are expected to be awarded such a degree by September 2020.
(4) Individuals who have been awarded or are expected to be awarded a degree equivalent to a master’s degree by September 2020 from the United Nations University as prescribed in Article 1(2) of the Act on Special Measures Incidental of Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Act No.72 of 1976), which was established under the December 11, 1972 resolution of the General Assembly of the United Nations.
(5) Individuals who have completed their formal education by taking a correspondence course through a non-Japanese university, an educational institution which received the designation by (3), or the United Nations University, who have passed an examination or a screening equivalent to the regulations by Article 16.2 in Standards for the Establishment of Graduate Schools, and who are recognized to have an academic ability equivalent to Master’s degree holders by the Graduate School, or who will obtain it by September 2020.
(6) Individuals designated by the Minister of Education, Culture, Sports, Science, and Technology (1989 Notice No. 118, Ministry of Education, Science and Culture), i.e., individuals who have completed 16 years of school education in a foreign country or 16 years of school education of a foreign country by taking a correspondence course in Japan offered by a school of that foreign country; have conducted research for two years or longer at a university, research institution, etc.; and are recognized by this graduate school as possessing equivalent or greater academic capabilities as those of a person who has a master’s degree based on its research findings, etc.
(7) Applicants who are recognized by the graduate school as possessing the equivalent or greater academic skill as that of a person who has a master’s degree or professional degree based on an individualized admission qualification investigation and who will be 24 years of age as of September 30, 2020.
Information on the Long-Term Study Program

1. Overview
This program is available to students who would not be able to complete the program within the standard course term (three 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 six years for the doctoral course. 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 six years in the doctoral course, 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., three years for doctoral 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.
(Notification of results: late - August [tentatively])

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 six years to four years (one year beyond the standard three-year course term) or five years to four years.

6. Tuition Fee
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 × 3 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
**Molecular Chemistry and Engineering Course**

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<thead>
<tr>
<th>Laboratory No.</th>
<th>Laboratory Name</th>
<th>Staff</th>
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<tbody>
<tr>
<td>01</td>
<td>Quantum Chemistry</td>
<td>Professor Tatsuo TAKESHIU, Assistant Professor Isao OKAMOTO, Assistant Professor Hideaki KANEDA, Assistant Professor Kei OKITA, Assistant Professor Junichi SHIMIZU</td>
</tr>
<tr>
<td>02</td>
<td>Theoretical Chemistry</td>
<td>Professor Satoshi MARDA, Assistant Professor Yoichiro TAKAHASHI, Assistant Professor Yu HARAUCHI</td>
</tr>
<tr>
<td>03</td>
<td>Physical Chemistry</td>
<td>Professor Kenji IIDA, Assistant Professor Yasuhiro IMAMURA, Assistant Professor Susumu TAKAHASHI, Assistant Professor Shiro INOUE, Assistant Professor Shigeyuki TSUKAMOTO</td>
</tr>
<tr>
<td>04</td>
<td>Analytical Chemistry</td>
<td>Professor Kenji INAGAKI</td>
</tr>
<tr>
<td>05</td>
<td>Organic Reaction</td>
<td>Associate Professor Hironori SENDOKU, Associate Professor Yoichiro NOGUCHI, Assistant Professor Tomoki YONEDA</td>
</tr>
<tr>
<td>06</td>
<td>Organoelement Chemistry</td>
<td>Professor Hajime ITO, Assistant Professor Terumitsu NAKANISHI, Assistant Professor Tetsuya SUGIHARA, Assistant Professor Toshihito NAGASAWA</td>
</tr>
<tr>
<td>07</td>
<td>Organic Synthesis</td>
<td>Professor Takashi OKIYAMA, Assistant Professor Haruki YAMANAKA, Assistant Professor Shinji NAKAJIMA</td>
</tr>
<tr>
<td>08</td>
<td>Organic Transformations</td>
<td>Associate Professor Yasunori YAMAGOTO</td>
</tr>
<tr>
<td>09</td>
<td>Organoelemental Chemistry</td>
<td>Professor Masaki SATO, Assistant Professor Atsushi SUZUKI</td>
</tr>
<tr>
<td>10</td>
<td>Organic Chemistry I</td>
<td>Professor Takumi SUZUKI, Assistant Professor Katsuhiko KURODA, Assistant Professor Yasushi ISHIBASHI</td>
</tr>
<tr>
<td>11</td>
<td>Catalytic Transformation</td>
<td>Professor Azami FUKUDA, Associate Professor Yutaka NAKAGAWA, Assistant Professor Shinji NOGUCHI, Assistant Professor Atsushi HIRAI</td>
</tr>
<tr>
<td>12</td>
<td>Macromolecular Science</td>
<td>Professor Tomoki NAKANO, Assistant Professor Yusuke WANG</td>
</tr>
<tr>
<td>13</td>
<td>Catalyst Material</td>
<td>Professor Kenji SHIBATA, Assistant Professor Masayoshi NISHIDA, Associate Professor Shinya FURUKAWA, Assistant Professor Takashi TOYODA</td>
</tr>
<tr>
<td>14</td>
<td>Catalysis Theory</td>
<td>Professor Kenji SETO, Assistant Professor Shinji ODA</td>
</tr>
<tr>
<td>15</td>
<td>Chemical System Engineering</td>
<td>Professor Takuo MASUDA, Associate Professor Keiichi TAKAHASHI, Assistant Professor Toru KAWAMURA</td>
</tr>
<tr>
<td>16</td>
<td>Material Design and Engineering</td>
<td>Professor Kenji MURAKAWA, Associate Professor Minoru NAKAJIMA, Assistant Professor Takuya YOSHIZAWA, Assistant Professor Takanori ISHIKAWA</td>
</tr>
<tr>
<td>17</td>
<td>Chemical Reaction Engineering</td>
<td>Lecturer Shinnosuke FUJITA</td>
</tr>
<tr>
<td>18</td>
<td>Chemical Energy Conversion Systems</td>
<td>Associate Professor Atsushi TSUKUMA, Assistant Professor Haruo KUMAGAI</td>
</tr>
</tbody>
</table>

*Laboratory No.20, No.22, No.51 are not recruiting students for admission in October, 2020 and April, 2021.*

*Laboratory No.27, No.28, No.33~No.36, No.46, No.49 are not recruiting Master's Degree Program students.*
<table>
<thead>
<tr>
<th>No.</th>
<th>Laboratory</th>
<th>Staff</th>
<th>Research Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Coordination Chemistry</td>
<td>Professor</td>
<td>Masaaki KATO</td>
</tr>
<tr>
<td>20</td>
<td>Condensed Matter Chemistry</td>
<td>Associate Professor</td>
<td>Jun HARADA</td>
</tr>
<tr>
<td>21</td>
<td>Materials Chemistry</td>
<td>Professor</td>
<td>Tatsuki KOMATSUZAKI</td>
</tr>
<tr>
<td>22</td>
<td>Inorganic Materials Chemistry Unit</td>
<td>Associate Professor</td>
<td>Makoto WAKESHIMA</td>
</tr>
<tr>
<td>23</td>
<td>Structural Inorganic Chemistry</td>
<td>Associate Professor</td>
<td>Kokubu HIGUCHI</td>
</tr>
<tr>
<td>24</td>
<td>Inorganic Synthesis Chemistry</td>
<td>Assistant Professor</td>
<td>Kusuhara TANAKA</td>
</tr>
<tr>
<td>25</td>
<td>Inorganic Chemistry</td>
<td>Associate Professor</td>
<td>Naoto SHIRAHATA</td>
</tr>
<tr>
<td>26</td>
<td>Inorganic Chemistry</td>
<td>Associate Professor</td>
<td>Kazuto YAMAURA</td>
</tr>
<tr>
<td>28</td>
<td>Applied Materials Chemistry</td>
<td>Associate Professor</td>
<td>Kazutoshi MISURO</td>
</tr>
<tr>
<td>29</td>
<td>Electronic Materials Chemistry Unit</td>
<td>Professor</td>
<td>Shunsuke KIMURA</td>
</tr>
<tr>
<td>30</td>
<td>Electronic Materials Chemistry Unit</td>
<td>Professor</td>
<td>Hiroki HABAKI</td>
</tr>
<tr>
<td>31</td>
<td>Advanced Materials Chemistry</td>
<td>Associate Professor</td>
<td>Tsutomu HASEGAWA</td>
</tr>
<tr>
<td>32</td>
<td>Applied Materials Chemistry</td>
<td>Professor</td>
<td>Katsuya KATO</td>
</tr>
<tr>
<td>33</td>
<td>Interfacial Electrochemistry</td>
<td>Professor</td>
<td>Tetsuo UCHIKOSHI</td>
</tr>
<tr>
<td>34</td>
<td>Interfacial Electrochemistry</td>
<td>Associate Professor</td>
<td>Yoshiaki KITANO</td>
</tr>
<tr>
<td>35</td>
<td>Interfacial Electrochemistry</td>
<td>Professor</td>
<td>Tatsuki KOMATSUZAKI</td>
</tr>
<tr>
<td>36</td>
<td>Interfacial Electrochemistry</td>
<td>Associate Professor</td>
<td>Yusuke HASEGAWA</td>
</tr>
</tbody>
</table>

*Laboratory No.20, No.22, No.51 are not recruiting students for admission in October, 2020 and April, 2021.

*Laboratory No.27, No.28, No.33～No.36, No.46, No.49 are not recruiting Master’s Degree Program students.
<table>
<thead>
<tr>
<th>Laboratory No.</th>
<th>Staff</th>
<th>Research Contents</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>37 Biological Chemistry</td>
<td>Professor: Kaneyasu RAKAGUCHI Assistant Professor: Yuki MATSUMOTO</td>
<td>Functional regulation of tumor suppressor-related proteins through post-translational modifications and localization.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>38 Biostructural Chemistry</td>
<td>Professor: Koichiro ISHIMORI Assistant Professor: Takashi UCHIDA</td>
<td>Functional and structural characterization and molecular design of proteins using spectroscopy.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>39 Bioorganic Chemistry</td>
<td>Professor: Yuta MURAKAMI Assistant Professor: Shinya TAKAHASHI</td>
<td>Studies of structure-function of chromatin and chromosomes, which is involved in maintenance and repression of genetic information: studies of regulatory mechanism of cell shape and movement.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>40 Biocatalysis</td>
<td>Professor: Masaharu TANAKA Assistant Professor: Hirofumi TAN</td>
<td>Development of biocatalysis-analysis systems using microdevices and new measurement techniques.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>41 Mechanistic Organic Chemistry</td>
<td>Professor: Hisashi OIKAWA</td>
<td>Elucidation of mechanisms of enzymatic reactions in the biosynthesis of bioactive natural products, and their applications to the organic synthesis to provide useful chemical library.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>42 Organic Chemistry II</td>
<td>Professor: Keiji TAN</td>
<td>Total synthesis of natural products having a complex structure and novel bioactivities.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>43 Chemistry of Molecular Assemblies</td>
<td>Associate Professor: Shinzhi SATO Assistant Professor: Takuya YAMAMOTO</td>
<td>Synthesis and computational chemistry of functional molecular assemblies based on soft matter such as synthetic polymers and carbohydrate chains.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>44 Polymer Chemistry</td>
<td>Professor: Toshifumi KITOH Assistant Professor: Kenji YAMADA</td>
<td>Synthesis of various architecturally complex polymers: molecular design of functional polymers such as stimuli-responsive polymers and conductive polymers: the study of microphase separation using block copolymers: creation and application of environmental zero-waste macromolecular materials with multi-functions.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>45 Biosynthetic Chemistry</td>
<td>Professor: Takashi HAGIYAMA</td>
<td>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 and CO$_2$ fixation.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>46 Chemical Biotechnology</td>
<td>Guest Professor: Toshio HIRASHI</td>
<td>Elucidation of reaction mechanism of biocatalytic polymer-degrading enzymes, and development of highly functional and efficient enzymes for biotechnological applications. Nuclear acid antibody.</td>
<td>KEKEN</td>
</tr>
<tr>
<td>47 Applied Biochemistry</td>
<td>Professor: Takanori IBA</td>
<td>Search for and characterization of novel primary/secondary metabolic pathways in microorganisms and their application for production of useful compounds by biotechnological and metabolic engineering.</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>48 Cell Processing Engineering</td>
<td>Professor: Masayuki TAKAGI</td>
<td>Cell processing engineering (process development with stem cells, non-invasive quality estimation of adherent mammalian cells), animal cell cultivation engineering for pharmaceuticals production, cell control using clock genes, bioresource chemistry (structural analysis of cellulose and related enzymes).</td>
<td>Faculty of Science</td>
</tr>
<tr>
<td>49 Cell Engineering</td>
<td>Guest Professor: Yui HORIYOSHI</td>
<td>Regenerative medicine, artificial organs, endovascular treatment, biomedical materials, cardiovascular medicine, vascular regeneration, cell therapy.</td>
<td>National Cerebral and Cardiovascular Center Research Institute</td>
</tr>
<tr>
<td>50 Molecular Medicine</td>
<td>Professor: Akira TAKAO Assistant Professor: Shinsuke TAMURA</td>
<td>Research on molecular mechanisms underlying cellular response to infection and cancer.</td>
<td>Institute for Genomic Medicine</td>
</tr>
<tr>
<td>51 Molecular Oncology</td>
<td>Professor: Yasuyuki FUJITA Assistant Professor: Nobuya TAN</td>
<td>Characterization of the interface between normal and transformed epithelial cells using various techniques of cell biology and biochemistry. Establishment of a novel type of cancer prevention and treatment.</td>
<td>Institute for Genomic Medicine</td>
</tr>
</tbody>
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