Academic Year 2025

Graduate School of Science
Hokkaido University

Doctoral Course

（Latter Period of Doctoral Program）

Winter Selection

Guidelines for Application for the Entrance Examination

For enrollment April 2025 or October 2025

General Category and Special Category for Working Adults
(Including Admission for International Students Residing in Japan)

November 2024

Notes

I. Applicants for the Department of Natural History Sciences must submit a certificate for English Language proficiency (the original of score sheet of either TOEFL or TOEIC). See page 6 and 8 for details. As for the examination schedule, etc., please confirm it by yourself based on the period of application receipt. Applicants who have already submitted a score sheet for the summer admission (August 8 &9, 2024) may apply for exemption from submitting a score sheet (or may submit a new score sheet). Applicants must tick the box 'Exemption from score sheet submission' on the application form.

Personal Information Management by Hokkaido University

(1) In handling personal information at Hokkaido University, Hokkaido University makes every effort to obey relevant laws and ordinances such as the “Protection Law for Private Information Held by Independent Administrative Corporations”, and protect personal information pursuant to “National University Corporation Hokkaido University Personal Information Management Rules”.

(2) Personal information, such as name, address, etc., provided by the applicant to the university in the process of applying for admission and pre-assessment of eligibility will be used only for 1) assessment of applicants (processing of application, conducting selection), 2) the announcement of application results, 3) enrollment procedures, 4) surveys and research on enrollee selection methods, and 5) business operations pertaining to 1-4.

(3) Private companies commissioned by the University (hereafter called “commissioned companies”) may handle personal data to engage in the relevant operations. Part or all of the personal information submitted to the University by the applicant will be provided to the commissioned companies, to the extent necessary for them to carry out their duties.

(4) After successful applicants are enrolled, the personal information provided by the applicants to the university in the process of applying for admission and pre assessment of eligibility will be used for; 1) academic affairs (registration, academic guidance, etc.), 2) student support services (health management, scholarship applications, etc.), 3) career support services, and 4) tuition and fees, and related administrative operations.

(5) Among the personal information of (4), only contact details, name and address and so on, may be used by Hokkaido University Frontier Foundation, Alumni Association of the School of Science and Alumni Association Elm of Hokkaido University with security measures.

(6) Applicants will be informed separately about the handling of personal data in accordance with the EU General Data Protection Regulation (GDPR). Applicants to whom such rules apply (those applying from within the European Economic Area (EEA) member states) should notify the Graduate School Educational Affairs Section, Science and Life Science Administration Department, prior to application.

Admission Policy for the Graduate School of Science

Applicants must have completed core subjects in the fields of Mathematics, Physics, Chemistry, Biological Sciences, Earth Sciences, or related subjects. To engage in more specialized and advanced academic research, they must also have the ability, character, and aptitude to study independently and to rigorously investigate the principles of nature as well as must have extensive knowledge and techniques.

・Principle Selection Policy (Multiple-Layered Evaluation Method)

【General Category】

Written and oral examinations will be conducted in accordance to each department and field of study.

In the written examination, particular emphasis will be placed on the evaluation of "knowledge and skills" and "ability to think, judge, and express". In the oral examination, particular emphasis will be placed on the evaluation of "knowledge and skills," "ability to think, judge, and express,", “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation”.

The Graduate School of Science will comprehensively assess applicants on the basis of the application documents (such as research plan, transcript, etc.).

【Special Category for Working Adults】

Written and oral examinations will be conducted in accordance to each department and field of study.

In the written examination, particular emphasis will be placed on the evaluation of "knowledge and skills" and "ability to think, judge, and express".

In the oral examination, particular emphasis will be placed on the evaluation of "knowledge and skills," "ability to think, judge, and express,", “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation”.

The Graduate School of Science will comprehensively assess applicants on the basis of the application documents (such as research plan, transcript, etc.).

For applicants under the Special Category for Working Adults, academic skills may be judged by their research achievements in practice (through an interview), rather than knowledge on their specified field or foreign language skills. In addition, their levels of “knowledge and skills”, “ability to think/judge/ express”, “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation” are given a great importance.

【Special Category for International Students】

In the oral examination, particular emphasis will be placed on the evaluation of "knowledge and skills," "ability to think, judge, and express,", “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation”.

The Graduate School of Science will comprehensively assess applicants on the basis of the application documents (such as research plan, transcript, etc.).

▪ **Principle Selection Policy** (Evaluation Elements and Their Importance)

【Doctoral Course (Latter Period of Doctoral Program)】

Category of Entrance Examination	Evaluation Element	3 Key Academic Elements			Comprehension	Ability to identify problems	Interest and motivation	Cultural knowledge
		Knowledge and Skills	Ability to think, judge, and express	Leaning Attitude (to take initiative, to cooperate with diverse people)				
General Category	Written examination	◎	◎		○			
	Oral examination (※2)	◎	◎	◎	◎	◎	◎	○
	Application Documents (Research Plan, Transcript, etc.)	Comprehensively evaluated						
Special Category for Working Adults	Written examination	◎	◎		○			
	The Graduate School of Science will assess applicants based on their master's thesis or equivalent (through an interview), knowledge on their specified field, foreign language skills, research plan after enrollment and other application documents submitted. For applicants under the Special Category for Working Adults, academic skills may be judged by their research achievements in practice (through an interview), rather than knowledge on their specified field or foreign language skills.	◎	◎	◎	○	◎	◎	
	Oral examination (※2)	◎	◎	◎	◎	◎	◎	○
	Application Documents (Research Plan, Transcript, etc.)	Comprehensively evaluated						
Special Category for International Students	Oral examination (※1)	◎	◎	◎	◎	◎	◎	○
	Application Documents (Research Plan, Transcript, etc.)	Comprehensively evaluated						

※1：Examination will be carried out by using Online Meeting System, etc.

※2：The Graduate School of Science will assess applicants based on their master's thesis or equivalent (through an interview), knowledge on their specified field, foreign language skills, research plan after enrollment and other application documents submitted.

（Note）◎…Key element we will give great importance on evaluation / ○…Key element we will give importance on evaluation

General Category and Special Category for Working Adults

1. Admission Quota

Department	Admission Quota		Website's URL
	April, 2025	October, 2025	
Mathematics	9		https://www2.sci.hokudai.ac.jp/dept/math/en
Condensed Matter Physics	7		https://phys.sci.hokudai.ac.jp/cond-mat/index_eng.html
Cosmosciences	A few students		https://www.cosmo.sci.hokudai.ac.jp/en/index.html
Natural History Sciences	A few students		Earth and Planetary Dynamics/ Earth and Planetary System Science/ Seismology and Volcanology: https://geodynamics.sci.hokudai.ac.jp/dyna-admin/en/index.html https://epsys.sci.hokudai.ac.jp/english.html https://isv.sci.hokudai.ac.jp/english/ Biodiversity: https://biodiversity.sci.hokudai.ac.jp/bd/en/ Science Communication: https://sc.sci.hokudai.ac.jp/
Total	Approx. 16students		

[Important]

① For more details about each department, please contact the department concerned.

② Applicants to the Department of Natural History Sciences must choose from among the Divisions of 1) Earth and Planetary Science etc. (Earth and Planetary Dynamics/ Earth and Planetary System Science/ Seismology and Volcanology) 2) Biodiversity, or 3) Science Communication. Check the appropriate box on the application form.

③ The admission quota in the table above includes working adults and international students. Those who wish to enroll while continuing their employment may apply under the Special Category for Working Adults.

2. Eligibility

Applicants must fulfill one of the following criteria.

(1) Received or are expected to receive a master's degree or a professional degree (refers to the professional degree stipulated in Article 5-2 of the Degree Regulations (Ordinance of the Ministry of Education, Science and Culture No.9 of 1953) in accordance with the provisions of Article 104 (3) of the School Education Act) prior to admission;

(2) Received or are expected to receive a degree equivalent to a master's degree or a professional degree at a university outside Japan prior to admission;

(3) Received or are expected to receive a degree equivalent to a master's degree or a professional degree by completing course subjects through a distance-learning course offered by an institution of a foreign country while living in Japan prior to admission;

(4) Received or are expected to receive a degree equivalent to a master's degree or a professional degree by completing a structured education at an institution established in Japan that is recognized by the school education system of a foreign country as an equivalent of the graduate school of that country and is designated separately by the Ministry of Education, Culture, Sports, Science and Technology (MEXT);

(5) Received or are expected to receive a degree equivalent to a master's degree by completing a course at the United Nations University which was established based on the United Nations General Assembly Resolution of December 11 of 1972, stipulated in Article 1(2) of the Act on Special Measures Concerning the Enforcement of the Agreement between the United Nations and Japan about the Headquarters of the United Nations University (Act No. 72 of 1976);

(6) Are recognized as having academic aptitude equivalent or superior to those who hold a master's degree by completing a structured education provided by an institution of a foreign country, an educational institution designated in (4) above, or the United Nations University, and by passing an examination or screening or equivalent specified in Article 16-2 of the Standards for the Establishment of Graduate Schools;
(7) Have been designated by MEXT (Ministry of Education Notification No. 118 of 1989), i.e.;
① Graduated from a university, engaged in research at a university or a research institute for two years or longer, and are recognized by the Graduate School of Science as having reached an academic level equivalent or superior to those who hold a master's degree, based on research results.
② Completed16 years of structured education outside Japan, or completed 16 years of structured education of a foreign country through a distance-learning course offered by an institution of that country while living in Japan, and subsequently engaged in research at a university or a research institute for two years or longer, and are recognized by the Graduate School of Science as having reached an academic level equivalent or superior to those who hold a master's degree, based on research results.
(8) Are recognized as having academic aptitude equivalent or superior to those who have a master's degree or a professional degree through the screening for entrance eligibility conducted by the Graduate School of Science and have reached the age of 24 by the enrollment date.

* Applicants must contact their prospective supervisor and obtain his/her acceptance in advance. The approval from the prospective supervisor does not confirm the success in the entrance examination. Also, applicants must check a supplementary description of "Documents Specified by Each Department (List of preferred laboratories or fields.")
* Applicants who wish to enroll in October 2025 must indicate so by checking the appropriate box on the application form.

3. Pre-assessment of Eligibility

Application Period: November 28 – December 2, 2024

Applicants who fall under (7) or (8) in "2. Eligibility" must go through a pre-assessment of eligibility prior to the application for entrance examination. Please submit "5. Application Documents" during the period described above. To receive the result, please enclose a self-addressed envelope with a 110-yen stamp affixed.

Applicants must not pay the entrance examination fee at the time of the pre-assessment. They should pay the entrance examination fee in accordance with the notes below.

Applications must be received by post during the application period.

[Important]
*The results of the pre-assessment will be sent to applicants around December 12, 2024, by post. Once their eligibilities have been confirmed, applicants must pay the examination fee in accordance with "7. Entrance Examination Fee," and submit the payment certificate by January 9, 2025. Application will not be accepted if the payment certificate is not received during the specified period.
*Students who will receive the Japanese Government (MEXT) scholarship, the State-Sponsored Scholarship Program of the China Scholarship Council, or the Hokkaido University President's Fellowship (including those who are expected to receive these scholarships) are not required to pay the examination fee.

4. Application Period

Application Period: January 6 – January 9, 2025

Applicants who fall under (1) through (6) in "2. Eligibility" must submit "5. Application Documents" together with the payment certificate (see "7. Entrance Examination Fee") during the application period. Applications must be received by post during the application period.

5. Application Documents

(1) General Category
* Applicants who fall under (7) or (8) in "2. Eligibility" must submit the following documents during the application period described in "3. Pre-assessment of Eligibility".

* In the following table, "○" indicates documents that must be submitted by all applicants, while "△" indicates documents that must be submitted by those who meet the definition in the "Remarks".

Documents		Applicants		Remarks
		(1) (2) (3) (4) (5) (6)	(7) (8)	
1	Application Form, Resume, Admission Ticket and Photo Card.	○	○	[Prescribed form] Applicants who have completed a structured education outside Japan or a distance-learning course offered by a foreign educational institution must fill out **Resume B**.
2	Research Plan after enrollment	○	○	Use prescribed form.
3	Copy of the thesis for master's degree	△		① Applicable to a master's or professional degree holder. ② Applicants from the Master's Course in the Graduate School of Science, Hokkaido University, are not required to submit this document.
4	Summary of research made during the Master's Course (within two pages in A4-sized paper).	△		Applicable to those who received or are expected to receive a master's degree. Applicants to the Department of Mathematics should submit a summary of study and research instead of a summary of research.
5	List of research accomplishments and copy of principal research paper		○	In any format.
6	Certificate of Research		○	[Discretionary format] Documents to prove the topic and period of your research issued by the head of university or research institute or a supervisor.
7	Official transcript issued by the graduate school or equivalent institution	○	○	① Applicants from the Master's Course in the Graduate School of Science, Hokkaido University are not required to submit this document. ② Applicants under (6), (7) or (8) in "2. Eligibility" are required to submit a transcript issued by the academic institution or school they graduated most recently. * In the case that the official transcript is written in a language other than Japanese or English, "Original Official Transcript written in the language concerned" and "Original official translation in Japanese or English" must be attached.
8	Official certificate of graduation (or expected graduation issued by the graduate school or equivalent institution	○	○	① An Official Certificate must be issued by the Head of the graduate school or equivalent institution. (Degree information should be contained if you have already graduated.) ◎ Applicants who graduated or are expected to graduate from a graduate school or equivalent institution in China (except Taiwan, Hong Kong, and Macao) must submit the following document written in English along with an official certificate of graduation (or expected graduation). Applicants who; -graduated … (a) Online Verification Report of Higher Education Qualification Certificate -are expected to graduate … (a) Online Verification Report of Student Record Document (a) can be obtained from the China Credentials Verification （中国高等教育学历证书查询 http://www.chsi.com.cn/xlcx/bgys.jsp） Please make sure the web authentication should be valid at least 15 days at the time of submission. ② Applicants from the Master's Course in the Graduate School of Science, Hokkaido University are not required to submit this document. ③ Applicants under (7) or (8) in "2. Eligibility" are required to submit the certificate issued by the last academic institution or school they graduated. ④ Applicants under (6) in "2. Eligibility" are required to submit a document equivalent to the Qualifying Examination. * In the case that the official transcript is written in a language other than Japanese or English, "Original Official Transcript written in the language concerned" and "Original official translation in Japanese or English" must be attached.
9	Documents specified by each department	△	△	See "(3) Documents Specified by Each Department" below.

10	Self-addressed envelope to receive the admission ticket for entrance examination.	○	○	[Prescribed envelope] Write your name, mailing address and postal code on an envelope with a 480-yen stamp attached. If you need to change your address afterwards, notify the Graduate School Educational Affairs Section immediately.
11	Stickers to receive application results and to be used for communication purposes	○	○	[Prescribed sticker] Write your name, mailing address and postal code on each sticker. If you need to change your address afterwards, notify the Graduate School Educational Affairs Section immediately.
12	Recommendation letter from the president or a faculty member of the most recent academic institution	△	△	[A4-sized paper in any format] Applicants to the Department of Mathematics, Condensed Matter Physics, or Cosmosciences may submit this document (not mandatory).
13	Certificate for English Language proficiency (The original score sheet of TOEFL or TOEIC)	△	△	Applicants for Natural History Sciences must submit certificates. Applicants must submit either (1) or (2) score sheet. Score sheet must be original. (Refer to "Note" below.) (1) TOEIC Public Testing [Listening & Reading] (must have been taken in or after July 2022) *In the case of taking TOEIC (Public Testing) after April 2023, a printed Digital Official Score Certificate could be submitted instead of the original Official Score Certificate. (2) TOEFL-iBT (Home Edition is accepted) (must have been taken in or after July 2022) TOEFL-ITP, TOEIC-IP and TOEIC-Bridge are not accepted. Applicants who have already submitted a score sheet for the summer admission (August 8 & 9, 2024) may apply for exemption from submitting a score sheet (or may submit a new score sheet). Applicants must tick the box 'Exemption from score sheet submission' on the application form.
14	Self-addressed envelope to receive the result of pre-assessment		○	Write your name, mailing address and postal code on a standard envelope with a 110-yen stamp attached.

(Note) Handling of English language proficiency score sheets submission
No additions or replacements of score sheets submitted during the application period will be accepted.
If you can submit a printout of the test results that can be checked on the website at the time of submitting the application documents, and if you can submit the original score sheet by Monday February 10, 2025 (must arrive by post or in person), you can submit a printed copy of the relevant test result instead of the original score sheet during the period for receiving the application form. However, if the original score sheet is not submitted (by post or in person) by Monday February 10, 2025, the English language proficiency score will be treated as 'no score'. In this case, the examination fee already paid will not be refunded.

(2) Special Category for Working Adults

* Applicants under (7) or (8) in "2. Eligibility" must submit the following documents during the application period for "3. Pre-assessment of Eligibility."
* In the following table, "○" indicates documents that must be submitted by all applicants, while "△" indicates documents that must be submitted by those who meet the definition in the "Remarks".

Documents		Applicants		Remarks
		(1) (2) (3) (4) (5) (6)	(7) (8)	
1	Application Form, Resume, Admission Ticket and Photo Card.	○	○	[Prescribed Form] Applicants who have completed a school education outside Japan or a distance-learning course offered by a foreign educational institution must fill out **Resume B**.
2	Certificate of employment issued by a person with authority over personnel administration in the applicant's workplace.	○	○	[Discretionary format] Successful applicants will be required to submit a written consent on enrolling in the doctoral course while continuing their employment issued by the person who has authority over personnel management. All applicants are advised to obtain the consent in advance.
3	Research Plan after enrollment.	○	○	Use Prescribed Form
4	List of research accomplishments and copy of principal research paper	○	○	Discretionary format

5	Certificate of research	○	○	[Discretionary format] Documents to prove the topic and period of your research issued by the president of a university, head of a research institute or a supervisor.
6	Official transcript issued by the most recent graduate school or equivalent institution	○	○	① Applicants from the Master's Course in the Graduate School of Science, Hokkaido University are not required to submit this document. ② Applicants under (6), (7) or (8) in "2. Eligibility" are required to submit a transcript issued by the academic institution or school they graduated most recently. * In the case that the official transcript is written in a language other than Japanese or English, "Original Official Transcript written in the language concerned" and "Original official translation in Japanese or English" must be attached.
7	Official certificate of graduation (or expected graduation) issued by the most recent graduate school or equivalent institution	○	○	① An Official Certificate must be issued by the Head of the graduate school or similar institution. (Degree information should be contained if you have already graduated.) ◎ Applicants who graduated or are expected to graduate from a graduate school or similar institution in China (except Taiwan, Hong Kong, and Macao) must submit the following document written in English along with an official certificate of graduation (or expected graduation). Applicants who; -graduated … (a) Online Verification Report of Higher Education Qualification Certificate -are expected to graduate … (a) Online Verification Report of Student Record Document (a) can be obtained from the China Credentials Verification （中国高等教育学历证书查询 http://www.chsi.com.cn/xlcx/bgys.jsp） Please make sure the web authentication should be valid at least 15 days at the time of submission. ② Applicants from the Master's Course in the Graduate School of Science, Hokkaido University are not required to submit this document. ③ Applicants under (7) or (8) in "2. Eligibility" are required to submit the certificate issued by the last academic institution or school they graduated. ④ Applicants under (6) in "2. Eligibility" are required to submit a document equivalent to the Qualifying Examination. * In the case that the official transcript is written in a language other than Japanese or English, "Original Official Transcript written in the language concerned" and "Original official translation in Japanese or English" must be attached.
8	Documents specified by each department	△	△	See "(3) Documents Specified by Each Department" below.
9	Self-addressed envelope to receive an admission ticket for entrance examination	○	○	[Prescribed envelope] Write your name, mailing address and postal code on the prescribed envelope with a 480-yen stamp attached. If you need to change your address afterwards, notify the Graduate School Educational Affairs Section immediately.
10	Stickers to receive application results and to be used for communication purposes	○	○	[Prescribed sticker] Write your name, mailing address and postal code on each sticker. If you need to change your address afterwards, notify the Graduate School Educational Affairs Section immediately.
11	Recommendation letter from a person with authority over personnel management in the workplace, or by a (prospective) supervisor at the university or research institute	△	△	[A4-sized paper in any format] Applicants to the Department of Mathematics, Condensed Matter Physics, or Cosmosciences may submit this document (not mandatory).

12	Certificate for English Language proficiency (The original score sheet of TOEFL or TOEIC)	△	△	Applicants for Natural History Sciences must submit certificates. Applicants must submit either (1) or (2) score sheet. Score sheet must be original. (Refer to "Note" below.) (1) TOEIC Public Testing [Listening & Reading] (must have been taken in or after July 2022) *In the case of taking TOEIC (Public Testing) after April 2023, a printed Digital Official Score Certificate could be submitted instead of the original Official Score Certificate. (2) TOEFL-iBT (Home Edition is accepted) (must have been taken in or after July 2022) TOEFL-ITP, TOEIC-IP and TOEIC-Bridge are not accepted. Applicants who have already submitted a score sheet for the summer admission (August 8 & 9, 2024) may apply for exemption from submitting a score sheet (or may submit a new score sheet). Applicants must tick the box 'Exemption from score sheet submission' on the application form.
13	Self-addressed envelope to receive the result of pre-assessment		○	Write your name, mailing address and postal code on a standard envelope with an 110-yen stamp attached.

(Note) Handling of English Language Proficiency Score Sheet Submission
No additions or replacements of score sheets will be accepted.
At the application submission period, if you can submit a printed copy of the test results that can be viewed on the web, and if you can submit the original score sheet by Wednesday February 10, 2025 (must arrive by mail or in person), you may submit a copy of the test results as a substitute for the original score sheet during the application period. However, if the original score sheet is not submitted (by mail or in person) by Wednesday February 10, 2025, the English Language proficiency score will be treated as "no score". In such a case, the examination fee already paid will not be refunded.

(3) Documents Specified by Each Department

Department		Documents to be submitted	Remarks
Mathematics		Motivations for application (prescribed form)	Provide the motivations for applying to this department.
Condensed Matter Physics		List of preferred laboratories or fields (prescribed form)	To do so, you must contact the supervisors of your prospective laboratories in advance and obtain permission of acceptance and permission of listing the laboratories in the survey sheet
Cosmosciences		List of preferred laboratories or fields (prescribed form)	Provide the name of one laboratory you wish to choose from the List of Supervisors and Research Fields. To do so, you must contact the supervisors of your prospective laboratories in advance and obtain permission of joining and permission of listing the laboratories in the survey sheet
Natural History Sciences	Earth and Planetary Dynamics Earth and Planetary System Science Seismology and Volcanology	List of preferred laboratories or fields (prescribed form)	Provide the name(s) of supervisor(s) you wish to seek guidance from the List of Supervisors and Research Fields.
	Biodiversity	List of preferred supervisors (prescribed form)	Provide the name(s) of supervisor(s) you wish to seek guidance from.
	Science Communication	1. List of preferred laboratories or fields (prescribed form) 2. Motivations for application (prescribed form)	

6. Where to Submit

To: Graduate School Educational Affairs Section
Science and Life Science Administration Department
Hokkaido University
Kita-10 Nishi-8, Kita-ku, Sapporo 060-0810, Japan

* Application documents must be sent by mail. Please mark "Application for the Graduate School Enclosed" in red on the envelope and send it by express registered mail. Please use the envelope prepared by you, not the "envelope for sending examination ticket" provided in the admission guidelines.

7. Entrance Examination Fee: 30,000 yen

(1) Students who are expected to complete the Master's Course offered by the graduate schools of Hokkaido University, or who will receive the Japanese Government (MEXT) scholarship*, the State-Sponsored Scholarship Program of the China Scholarship Council, or the Hokkaido University President's Fellowship (including those who are expected to receive these scholarships) are not required to pay the examination fee.

* MEXT scholarship students recommended by Japanese Embassies/Consulates, authorities, or universities other than Hokkaido University are required to submit a copy of the letter proving that they will receive this scholarship.

(2) Remit the examination fee through a bank or a post office by using the payment slip for entrance examination fee which is enclosed in the application package and attach the payment certificate to the appropriate section on the application form.

(3) The examination fee is not refundable except for the following cases:

- The applicant has decided not to submit an application after examination fee was remitted, or the application was not accepted.
- The applicant paid the examination fee twice by mistake.

8. Screening Method

The Graduate School of Science will assess applicants based on their master's thesis or equivalent (through an interview), knowledge on their specified field, foreign language skills, research plan after enrollment and other application documents submitted.

For applicants under the Special Category for Working Adults, academic skills may be judged by their research achievements in practice (through an interview), rather than knowledge on their specified field or foreign language skills.

* As to the Oral Examination of the Division of Science Communication in the Department of Natural History Sciences, it will be held online using the Internet Meeting System.
* In the Department of Natural History Science, TOEFL or TOEIC scores are taken into account in the selection process. Please check the TOEFL and TOEIC examination dates, application periods and etc. on your own.

9. Examination Dates & Venue

Date: February 12 –13, 2025

Venue: Graduate School of Science, Hokkaido University (Kita-10 Nishi-8 Kita-ku, Sapporo)

* The Graduate School of Science will send detailed information on the entrance examination, including the exam time and place when sending the administration ticket.

10. Announcement of Results

The examinee's number of successful applicants will be posted on the website of the Graduate School of Science around 4:30 PM on February 20, 2025. All applicants are notified of their results individually.

11. Procedures for Enrollment and Payment of Fees

All successful applicants are notified of the registration procedure at the time of notification of results.

Enrollment Fee: 282,000 yen (estimated)

* Applicants who are expecting to complete a Master's Course in the graduate schools of Hokkaido University are not required to pay the enrollment fee.

Tuition Fee: 267,900 yen for the first semester [Total annual tuition fee = 535,800 yen] (estimated).

*If the tuition fee is revised during the period of your enrollment, the revised fee becomes effective immediately.

12. Important Notice

(1) Make sure to bring your admission ticket on the day of examination and put it on your desk.
(2) After submitting the application documents, applicants are not allowed to change their selection of department for any reason.
(3) If you need special considerations and/or arrangements in taking the examination due to physical difficulties, consult with the Graduate School Educational Affairs Section at the time of application.

13. Extending Enrollment Duration

It is possible to extend the standard years of study at the Graduate School of Science. Read “Extension of the Enrollment Duration” on page 11, and submit an application if you wish to take advantage of this scheme.

14. Other Information

The admission ticket for entrance examination will be sent around January 20, 2025, to all applicants whose application document is accepted.

◎ If you have any questions about the application procedure, please contact the following:

Graduate School Educational Affairs Section
Science and Life Science Administration Department
Hokkaido University
Kita-10 Nishi-8 Kita-ku, Sapporo 060-0810, Japan
(Office hours: 8:30 a.m. – 5:00 p.m. weekday)
Tel: (011) 706 - 3675
E-mail: r-gakuin@sci.hokudai.ac.jp
Graduate School of Science, Hokkaido University
https://www2.sci.hokudai.ac.jp/gs/en

Extension of the Enrollment Duration

1. Aims

When students are under special circumstances such as having a job, etc. (including child and nursing care), they may apply for an extension of enrollment duration which exceeds the standard enrollment duration (3 years) (hereinafter referred to as " Extension of the Enrollment Duration"). The graduate school may approve such requests after reviewing their application.

2. Intended Students

Students who fall under one of the criteria below and for that reason, wish to set the study duration longer than the standard Enrollment Duration to complete an academic (research) course:

(1) Have a full-time job in a public office or company (excluding those who are exempt from job duty but receive a salary), or are self-employed;
(2) Have a part-time job that has a significant influence on the full-time academic work;
(3) Are taking care of children or other family members, which has a significant influence on the full-time academic work; or
(4) Are visually impaired, hearing impaired, physically handicapped, etc., which are deemed to have a significant influence on the academic work for an extended period of time.

3. Maximum Enrollment Duration

The maximum enrollment duration is 6 years for the doctor's degree program, and a student can apply for extension by the year. Students who have been approved of Extension of the Enrollment Duration may not continue their study beyond 6 years.

Students may take a temporary leave of absence from school for up to 3 years, the same as the students under the standard duration of study.

4. Application Procedure

(1) Application Period

As a general rule, application documents for Extension of the Enrollment Duration should be submitted at the time of application for entrance examination.

(2) Required Documents

① Application Form for Extension of the Enrollment Duration(Form 1).
② Research Plan Under Extension of the Enrollment Duration(Form 2).
③ Documents to prove that an applicant needs to apply for Extension of the Enrollment Duration

(3) Announcement of Results

The Graduate School of Science reviews each application individually and will notify the results to all the successful applicants who passed entrance examination.

5. Reducing or Extending the Duration of Enrollment

When regarded as necessary, the Graduate School of Science may approve Reduction or Extension of the Enrollment Duration only once. The maximum reduction of Extended Duration of Enrollment is the period of adding one year to the standard duration of study (3 years).

6. Annual Tuition Fee

The tuition fee for students with the extension of enrollment duration will be calculated by multiplying the annual tuition fee by the number of years equivalent to the standard duration of study (3 years), then dividing the resulting amount by the number of years approved for extended study. If the revision is made to the tuition fee or the changes to the Duration of Extended Enrollment are approved, the fee will be calculated accordingly. However, the adjustment will not be made to the tuition fee which has already been paid.

<u>Students who have not received the results of their application for the Extension of Enrollment Duration must not pay the tuition fee before they receive the official notification of the results.</u>

7. Other Information

For more details about Extension of the Enrollment Duration, please contact the Graduate School Educational Affairs Section, Science and Life Science Administration Department, Hokkaido University.

Academic Year 2025

Graduate School of Science
Hokkaido University

Doctoral Course

（Latter Period of Doctoral Program）

Winter Selection

Guidelines for Application for the Entrance Examination

For enrollment April 2025 or October 2025

(Admission for International Students Residing Abroad)

November 2024

Notes

Applicants for special category (international students) must submit a certificate for Japanese or English Language proficiency. Applicants who have difficulties in submitting certificates for Japanese or English Language proficiency may submit a transcript or similar document that shows Japanese or English grades issued by the university or school they graduated from.

Personal Information Management by Hokkaido University

(1) In handling personal information at Hokkaido University, Hokkaido University makes every effort to obey relevant laws and ordinances such as the "Protection Law for Private Information Held by Independent Administrative Corporations", and protect personal information pursuant to "National University Corporation Hokkaido University Personal Information Management Rules".

(2) Personal information, such as name, address, etc., provided by the applicant to the university in the process of applying for admission and pre-assessment of eligibility will be used only for 1) assessment of applicants (processing of application, conducting selection), 2) the announcement of application results, 3) enrollment procedures, 4) surveys and research on enrollee selection methods, and 5) business operations pertaining to 1-4.

(3) Private companies commissioned by the University (hereafter called "commissioned companies") may handle personal data to engage in the relevant operations. Part or all of the personal information submitted to the University by the applicant will be provided to the commissioned companies, to the extent necessary for them to carry out their duties.

(4) After successful applicants are enrolled, the personal information provided by the applicants to the university in the process of applying for admission and pre assessment of eligibility will be used for; 1) academic affairs (registration, academic guidance, etc.), 2) student support services (health management, scholarship applications, etc.), 3) career support services, and 4) tuition and fees, and related administrative operations.

(5) Among the personal information of (4), only contact details, name and address and so on, may be used by Hokkaido University Frontier Foundation, Alumni Association of the School of Science and Alumni Association Elm of Hokkaido University with security measures.

(6) Applicants will be informed separately about the handling of personal data in accordance with the EU General Data Protection Regulation (GDPR). Applicants to whom such rules apply (those applying from within the European Economic Area (EEA) member states) should notify the Graduate School Educational Affairs Section, Science and Life Science Administration Department, prior to application.

Admission Policy for the Graduate School of Science

Applicants must have completed core subjects in the fields of Mathematics, Physics, Chemistry, Biological Sciences, Earth Sciences, or related subjects. To engage in more specialized and advanced academic research, they must also have the ability, character, and aptitude to study independently and to rigorously investigate the principles of nature as well as must have extensive knowledge and techniques.

・Principle Selection Policy (Multiple-Layered Evaluation Method)

【General Category】

Written and oral examinations will be conducted in accordance to each department and field of study.

In the written examination, particular emphasis will be placed on the evaluation of "knowledge and skills" and "ability to think, judge, and express". In the oral examination, particular emphasis will be placed on the evaluation of "knowledge and skills," "ability to think, judge, and express,", “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation”.

The Graduate School of Science will comprehensively assess applicants on the basis of the application documents (such as research plan, transcript, etc.).

【Special Category for Working Adults】

Written and oral examinations will be conducted in accordance to each department and field of study.

In the written examination, particular emphasis will be placed on the evaluation of "knowledge and skills" and "ability to think, judge, and express".

In the oral examination, particular emphasis will be placed on the evaluation of "knowledge and skills," "ability to think, judge, and express,", “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation”.

The Graduate School of Science will comprehensively assess applicants on the basis of the application documents (such as research plan, transcript, etc.).

For applicants under the Special Category for Working Adults, academic skills may be judged by their research achievements in practice (through an interview), rather than knowledge on their specified field or foreign language skills. In addition, their levels of “knowledge and skills”, “ability to think/judge/ express”, “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation” are given a great importance.

【Special Category for International Students】

In the oral examination, particular emphasis will be placed on the evaluation of "knowledge and skills," "ability to think, judge, and express,", “ability to work independently and cooperatively”, “comprehension”, “ability to identify problems”, and “interest and motivation”.

The Graduate School of Science will comprehensively assess applicants on the basis of the application documents (such as research plan, transcript, etc.).

・**Principle Selection Policy** (Evaluation Elements and Their Importance)

【Doctoral Course (Latter Period of Doctoral Program)】

Category of Entrance Examination	Evaluation Element	3 Key Academic Elements			Comprehension	Ability to identify problems	Interest and motivation	Cultural knowledge
		Knowledge and Skills	Ability to think, judge, and express	Leaning Attitude (to take initiative, to cooperate with diverse people)				
General Category	Written examination	◎	◎		○			
	Oral examination (※2)	◎	◎	◎	◎	◎	◎	○
	Application Documents (Research Plan, Transcript, etc.)	Comprehensively evaluated						
Special Category for Working Adults	Written examination	◎	◎		○			
	The Graduate School of Science will assess applicants based on their master's thesis or equivalent (through an interview), knowledge on their specified field, foreign language skills, research plan after enrollment and other application documents submitted. For applicants under the Special Category for Working Adults, academic skills may be judged by their research achievements in practice (through an interview), rather than knowledge on their specified field or foreign language skills.	◎	◎	◎	○	◎	◎	
	Oral examination (※2)	◎	◎	◎	◎	◎	◎	○
	Application Documents (Research Plan, Transcript, etc.)	Comprehensively evaluated						
Special Category for International Students	Oral examination (※1)	◎	◎	◎	◎	◎	◎	○
	Application Documents (Research Plan, Transcript, etc.)	Comprehensively evaluated						

※1：Examination will be carried out by using Online Meeting System, etc.

※2：The Graduate School of Science will assess applicants based on their master's thesis or equivalent (through an interview), knowledge on their specified field, foreign language skills, research plan after enrollment and other application documents submitted.

（Note）◎…Key element we will give great importance on evaluation / ○…Key element we will give importance on evaluation

Special Category for International Students

1. Admission Quota

Department	Admission Quota	
	April 2025	**October 2025**
Mathematics	A few students	
Condensed Matter Physics		
Cosmosciences		
Natural History Sciences		

2. Eligibility

Applicants must be a citizen of a county other than Japan and living outside of Japan (therefore it is difficult to travel to Japan to take the entrance examination). They must be recognized as having enough competence and scholastic performance by a faculty member of the Graduate School of Science who has agreed to be a supervisor* after enrollment. Also, they must fulfill one of the following criteria:

(1) Received or are expected to receive a degree equivalent to a master's degree or a professional degree at a university outside Japan prior to admission;
(2) Received or are expected to receive a degree equivalent to a master's degree by completing a course at the United Nations University which was established based on the United Nations General Assembly Resolution of December 11 of 1972, stipulated in Article 1(2) of the Act on Special Measures Concerning the Enforcement of the Agreement between the United Nations and Japan about the Headquarters of the United Nations University (Act No. 72 of 1976);
(3) Are recognized as having academic aptitude equivalent or superior to those who hold a master's degree by completing a school education provided by an institution of a foreign country or the United Nations University, and by passing an examination or screening or equivalent specified in Article 16-2 of the Standards for the Establishment of Graduate Schools;
(4) Have been designated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (Ministry of Education Notification No. 118 of 1989), i.e., completed 16 years of structured education outside Japan and subsequently engaged in research at a university or a research institute for two years or longer, and are recognized by the Graduate School of Science as having reached an academic level equivalent or superior to those who hold a master's degree, based on research results; or
(5) Are recognized as having an academic aptitude equivalent or superior to those who hold a master's degree or a professional degree through the screening for entrance eligibility conducted by the Graduate School of Science, and have reached the age of 24 by the enrollment date.

*** Applicants must contact their prospective supervisor and obtain his/her acceptance in advance. Then they will receive a password necessary for online application. The approval from the prospective supervisor does not confirm the success in the entrance examination. Also, applicants must request their prospective supervisor to write a recommendation letter (discretionary format) and ask him/her to submit it to the Graduate School Educational Affairs Section during the application period.**
*** Those who wish to enroll in October 2025 must indicate so by choosing "October 2025 enrollment" at the time of online application.**

3. Pre-assessment of Eligibility

Application Period: November 28 – December 2, 2024, by 5:00 PM JST

Applicants who fall under (4) or (5) in "2. Eligibility" must go through a pre-assessment of eligibility prior to the formal application period for entrance examination. Please submit "6. Application Documents" in PDF format during the above period by email to the address below. If you provide false information, your application may be rejected.

Email address: r-gakuin@sci.hokudai.ac.jp

Applicants must not pay the entrance examination fee at the time of the pre-assessment.

The results of the pre-assessment will be sent to applicants around December 12, 2024, by email. Once their eligibilities have been confirmed, applicants must pay the examination fee in accordance with "5. Application Procedure and Payment of Fees" during the period described in "4. Application Period".

Students who will receive the Japanese Government (MEXT) scholarship, the State- Sponsored Scholarship Program of the China Scholarship Council, or the Hokkaido University President's Fellowship (including those who are expected to receive these scholarships) are not required to pay the examination fee.

4. Application Period

◆ **Online application: December 12 – December 17, 2024, by 5:00 PM JST**

* After completing the online application, applicants must scan all application documents in PDF format and send them via email by December 17, 2024.
  Email address: r-gakuin@sci.hokudai.ac.jp

◆ **Deadline for submitting application documents by post: January 9, 2025, by 5:00 PM JST**

* Aside from the PDF files sent by email, applicants must send hard copies of the application documents by registered mail. They must be received by the deadline so consider the time for courier delivery.

***Applicants under (1), (2), or (3) in "2. Eligibility"** must apply by referring to "5. Application Procedure and Payment of Fees" during the application period.

***Applicants under (4) or (5) in "2. Eligibility"** must first apply for the pre-assessment explained in "3. Pre-Assessment of Eligibility". Once their eligibilities have been confirmed, they must complete the procedure described in "5. Application Procedure and Payment of Fees" during the application period.

5. Application Procedure and Entrance of Fees

Applicants must complete all of the following (①-③) by the deadline specified in "4. Application Period".

① Online Application

Applicants must have (or have access to) a printer for printing the application documents, and have an email address capable of receiving a notification from the university (cell phone's email address is not accepted).

1) Access the Hokkaido University Online Application website using the password received from the prospective supervisor (https://e-apply.jp/e/hokudai-sci/)
2) Read the instructions on the website carefully and fill out all the necessary information.
3) If successfully registered, notification will be sent to the email address you have provided.

② Payment of Entrance Examination Fee

Entrance examination fee of 30,000 yen must be paid in accordance with the instructions provided on the payment procedures screen shown after you have completed the online application. Use one of the following methods to make payment.

(i) Credit card
(ii) Pay-easy (bank ATM, Japan Post bank ATM, or online banking), convenience store, PayPay Bank, or Rakuten Bank
(iii) ChinaPay (online payment service offered by China UnionPay)

* Along with the entrance examination fee, about 500 yen will be added as a handling charge.
* Students who will receive the Japanese Government (MEXT) scholarship, the State- Sponsored Scholarship Program of the China Scholarship Council, or the Hokkaido University President's Fellowship (including those who are expected to receive these scholarships) are not required to pay the examination fee.
  MEXT scholarship students recommended by Japanese Embassies/Consulates, authorities, or universities other than Hokkaido University are required to submit a copy of the letter proving that they will receive this scholarship.
* The examination fee is not refundable except for the following cases:
  - The applicant has decided not to submit an application after examination fee was remitted, or the application was not accepted.
  - The applicant paid the examination fee twice by mistake.

③ Submission of Application Documents by Post

Print the application form and resume that are generated after you have completed the online application and send them along with other necessary documents (see "6. Application Documents") in an envelope by registered mail. It must be received by the deadline. The application documents will not be returned once submitted.

To: Graduate School Educational Affairs Section
Science and Life Science Administration Department
Hokkaido University
Kita-10 Nishi-8, Kita-ku, Sapporo 060-0810, Japan

* The application will be considered complete once all documents are received by the Graduate School Educational Affairs Section. Note that completion of the online application alone does not constitute completion of the application procedure.
* Applications received after the deadline will not be accepted. Consider the time for courier delivery and be sure to post it well in advance.

6. Application Documents

* In the following table, "○" indicates documents that must be submitted by all applicants; while "△" indicates documents that must be submitted by those who meet the definition in the "Remarks"

Documents		Applicants		Remarks
		(1) (2) (3)	(4) (5)	
1	Application Form and Resume.	○	○*	Print the application form and resume that are generated after completing online application registration (on A4-sized paper). *** Applicants under (4) or (5) in "2. Eligibility" must do so after their eligibilities have been accepted through the pre-assessment.**
2	Application Form for Pre-assessment.		○	Prescribed form is available for download from the online application website.
3	One ID Photograph	○	○	Photo size must be (4cm×3cm)
4	Research plan after enrollment.	○	○	Prescribed form is available for download from online application website. Print on A4 sized paper.
5	Copy of the thesis for master's degree	△		Applicable to a master's degree holder.
6	Summary of research made during the Master's Course (within two pages in A4-sized paper).	△		Applicable to those who received or are expected to receive a master's degree. Applicants to the Department of Mathematics should submit a summary of study and research instead of a summary of research.
7	Official transcript issued by the graduate school	○	○	① Recommendation letter form the applicant's supervisor may be attached for reference. ② Applicants under (3), (4) or (5) in "2. Eligibility" are required to submit a transcript issued by the academic institution they graduated most recently. * In the case that the official transcript is written in a language other than Japanese or English, "Original Official Transcript written in the language concerned" and "Original official translation in Japanese or English" must be attached.
8	Japanese or English Language Proficiency Certificate	○	○	Applicants who have difficulties in submitting the Japanese or English Language proficiency certificate may submit a transcript or similar document that indicates Japanese or English grades issued by the graduate school where they graduated from.

9	Official certificate of graduation (or expected graduation) issued by the graduate school or equivalent institution	○	○	①An Official Certificate must be issued by the Head of the graduate school or equivalent institution. (Degree information should be contained if you have already graduated.) ◎ Applicants who graduated or are expected to graduate from a graduate school or equivalent institution in China (except Taiwan, Hong Kong, and Macao) must submit the following document written in English along with an official certificate of graduation (or expected graduation). Applicants who; -graduated … (a) Online Verification Report of Higher Education Qualification Certificate -are expected to graduate … (a) Online Verification Report of Student Record Document (a) can be obtained from the China Credentials Verification （**中国高等教育学**历证书查询 http://www.chsi.com.cn/xlcx/bgys.jsp） Please make sure the web authentication should be valid at least 15 days at the time of submission. ② Applicants under (4) or (5) in “2. Eligibility” are required to submit the certificate issued by the last academic institution or school they graduated. ③ Applicants under (3) in “2. Eligibility” are required to submit a document equivalent to the QE (Qualifying Examination). * In the case that the official transcript is written in a language other than Japanese or English, “Original Official Transcript written in the language concerned” and “Original official translation in Japanese or English” must be attached.
10	Copy of Passport	○	○	Photocopy the page showing your full name.
11	Documents requested by a prospective supervisor	△	△	

7. Screening Method

The Graduate School of Science will assess applicants based on their application form, resume, official transcript issued by the academic institution they graduate most recently, recommendation letter from the prospective supervisor, and other documents submitted.

8. Announcement of Results

The examinee’s number of successful applicants will be posted on the website of the Graduate School of Science around 4:30 PM on January 30, 2025. All applicants are notified of their results individually.

9. Procedures for Enrollment and Payment of Fees

All successful applicants are notified of the registration procedure at the time of notification of results.
Enrollment Fee: 282,000 yen (estimated)
Tuition Fee: 267,900 yen for the first semester (Total annual tuition fee = 535,800 yen) (estimated)

*If the tuition fee is revised during the period of your enrollment, the revised fee becomes effective immediately.

10. Extending the Period of Registration

It is possible to extend the standard years of study at the Graduate School of Science. Read “Extension of the Enrollment Duration” on page 8, and submit an application if you wish to take advantage of this scheme.

◎ **If you have any questions about the application procedure, please contact the following:**

Graduate School Educational Affairs Section
Science and Life Science Administration Department
Hokkaido University
Kita-10 Nishi-8 Kita-ku, Sapporo 060-0810, Japan
(Office hours: 8:30 a.m. – 5:00 p.m. weekday)
Tel: +81-11-706 - 3675
E-mail: r-gakuin@sci.hokudai.ac.jp
Graduate School of Science, Hokkaido University
https://www2.sci.hokudai.ac.jp/gs/en

Extension of the Enrollment Duration

1. Aims

When students are under special circumstances such as having a job, etc. (including child and nursing care), they may apply for an extension of enrollment duration which exceeds the standard enrollment duration (3 years) (hereinafter referred to as " Extension of the Enrollment Duration"). The graduate school may approve such requests after reviewing their application.

2. Intended Students

Students who fall under one of the criteria below and for that reason, wish to set the study period longer than the standard Enrollment Duration to complete an academic (research) course:

(1) Have a full-time job in a public office or company (excluding those who are exempt from job duty but receive a salary), or are self-employed;
(2) Have a part-time job that has a significant influence on the full-time academic work;
(3) Are taking care of children or other family members, which has a significant influence on the full-time academic work; or
(4) Are visually impaired, hearing impaired, physically handicapped, etc., which are deemed to have a significant influence on the academic work for an extended period of time.

3. Maximum Enrollment Duration

The maximum enrollment duration is 6 years for the doctor's degree program, and a student can apply for extension by the year. Students who have been approved of Extension of the Enrollment Duration may not continue their study beyond 6 years.

Students may take a temporary leave of absence from school for up to 3 years, the same as the students under the standard period of study.

4. Application Procedure

(1) Application Period

As a general rule, application documents for Extension of the Enrollment Duration should be submitted at the time of application for entrance examination.

(2) Required Documents

① Application Form for Extension of the Enrollment Duration (Form 1).
② Research Plan Under Extension of the Enrollment Duration (Form 2).
③ Documents to prove that an applicant needs to apply for Extension of the Enrollment Duration

(3) Announcement of Results

The Graduate School of Science reviews each application individually and will notify the results to all the successful applicants who passed the entrance examination.

5. Reducing or Extending the Enrollment Duration

When regarded as necessary, the Graduate School of Science may approve of reducing or extending the Extension of the Enrollment Duration only once. The maximum reduction of Extended Duration of Enrollment is the period of adding one year to the standard period of study (3 years).

6. Annual Tuition Fee

The tuition fee for students approved to study for an extended period will be calculated by multiplying the annual tuition fee by the number of years equivalent to the standard period of study (3 years), then dividing the resulting amount by the number of years approved for extended study. If the revision is made to the annual tuition fee or the changes to the Duration of Extended Enrollment are approved, the fee will be calculated accordingly. However, the adjustment will not be made to the tuition fee which has already been paid.

<u>Students who have not received the results of application for Extension of the Enrollment Duration must not pay the tuition fee before they receive the official notification of results.</u>

7. Other Information

For more details about Extended Period of Registration, please contact the Graduate School Educational Affairs Section, Science and Life Science Administration Department, Hokkaido University.

List of Supervisors and Research Fields

As of November 1, 2024

Doctoral Course

Department of Mathematics, Graduate School of Science

Fields	Supervisors		Keywords	Remarks
Algebra	Professor	ASAKURA Masanori	Arithmetic geometry	
	Professor	MATSUMOTO Keiji	Special functions	
	Professor	YASUDA Seidai	Number theory, arithmetic geometry	
	Specially Appointed Professor	SAITO Mutsumi	Algebraic analysis, rings of differential operators	
	Associate Professor	CAI, Yuanqing	Number theory, representation theory,automorphic L-functions, automorphic representations, covering groups	
	Associate Professor	SHIBUKAWA Youichi	Yang-Baxter equations and quantum groups	
	Associate Professor	SCRIMSHAW, Travis	Crystal basis, Yang-Baxter equation, Schubert calculus	
	Associate Professor	MATSUSHITA Daisuke	Algebraic geometry	
Geometry	Professor	AKITA Toshiyuki	Algebraic topology, group cohomology, quandle	
	Professor	INOGUCHI Junichi	Geometry, integrable systems, Lie group, homogeneous spaces	
	Professor	KOBAYASHI Shimpei	Differential geometry	
	Professor	FURUHATA Hitoshi	Differential geometry	
	Specially Appointed Professor	IWASAKI Katsunori	Complex geometry, dynamical systems, Painlevé systems	
	Associate Professor	KASUYA Naohiko	Differential topology, contact structures, complex structures	
	Associate Professor	KAWASAKI Morimichi	Symplectic geometry, partial quasi-morphism	
Analysis	Professor	KUBO Hideo	Partial Differential Equations associated with Nonlinear Dynamics	
	Professor	HORA Akihito	Functional analysis, probability theory	
	Professor	HONDA Naofumi	Algebraic analysis	
	Professor	MIYAO Tadahiro	Mathematical physics, functional analysis, condensed matter physics	
	Associate Professor	UMETA Yoko	Exact WKB analysis, asymptotic analysis, higher order Painlevé equations, Stokes geometry	
	Associate Professor	KOBAYASHI Masaharu	Harmonic Analysis	
	Associate Professor	SUZUKI Yuhei	Operator algebras	
	Associate Professor	HASEBE Takahiro	Probability theory, functional analysis	
	Associate Professor	HAMAMUKI Nao	Nonlinear partial differential equations, Theory of viscosity solutions	
Applied Mathmatics	Professor	SAKAI Akira	Probability theory, statistical mechanics, mathematical physics	
	Professor	NAGAYAMA Masaharu	Reaction-diffusion systems, mathematical modeling, numerical simulation	
	Professor	NAMIKI Takao	Ergodic theory, dynamical systems, complex systems	
	Professor	MASAKI Satoshi	Partial differential equations, harmonic analysis, variational analysis	
	Associate Professor	KURODA Hirotoshi	Partial differential equations, variational analysis	
	Associate Professor	SATO Yuzuru	Complex systems, chaotic dynamical systems	
	Associate Professor	TASAKI Sohei	Mathematical life sciences, Microbiology	
	Associate Professor	TABATA Koji	Online learning,data science,theory of computation	
	Associate Professor	NAKANO Yushi	Dynamical systems, ergodic theory, chaos	

※There is a possibility that the members of supervisors change. Please get the latest information from the website of the Graduate School of Science.

As of November 1, 2024

Doctoral Course

Department of Condensed Matter Physics, Graduate School of Science

Laboratories	Supervisors		Keywords	Remarks
Electronic Properties of Solids	Professor	YOSHIDA Hiroyuki	We develop new materials in strongly correlated electron systems by various chemical methods including high pressure synthesis, and elucidate their properties by both bulk physical properties measurements (electrical resistivity, magnetization, specific heat measurements, and precise measurements in ultra-high magnetic fields, etc) and microscopic measurements (μSR, neutron and synchrotron X-ray scattering, etc). Specifically, we develop frustrated magnetic materials, multipole materials, skyrmion materials, novel actinide compounds and also search for quantum many-body states in high magnetic fields, cross-correlational phenomena, and new superconducting states and odd-parity multipoles.	
	Assistant Professor	KON Fusako		
J-Material: Physics of Strongly Correlated Systems	Professor	AMITSUKA Hiroshi	J-material, superconductivity, Magnetism, Heavy fermion, Quantum phase transition, Magnetoelectric effects, Very low temperatures, High magnetic fields, High pressure, Ultrasonic measurements, MuSR, Neutron scattering, RXS, Ferroelectrics, Multiferroics, Electronic ferroelectricity, Phase transition, Photoinduced cooperative phenomena	
	Professor	YANAGISAWA Tatsuya		
	Associate Professor	TAKESADA Masaki		
	Assistant Professor	HIDAKA Hiroyuki		
Electronic Properties of Low-demensional Material	Professor	KAWAMOTO Atsushi	NMR, Strongly-correlated electrom systems, Superconductivity, Magnetism Low-dimensional organic conductors, Scanning tunneling microscopy (STM), Scanning tunneling spectroscopy (STS), Nonlinear conductivity, Symmetry of Cooper pairs, Spin density waves (SDWs), Chiral superconductivity, Mesoscopic systems, Topological phenomena	
	Associate Professor	MATSUNAGA Noriaki		
	Lecturer	IHARA Yoshihiko		
	Assistant Professor	NOBUKANE Hiroyoshi		
	Assistant Professor	FUKUOKA Syuhei		
Condensed Matter Dynamics	Associate Professor	MISHINA Tomobumi	We study the interaction of light with matter, mainly by spectroscopic measurements using laser light. Target systems include organic materials, metals, and semiconductors. In the case of molecular luminescence in solution, we deal with energy relaxation of a few milliseconds due to liquid dynamics; in the case of excited-state relaxation in semiconductors, we measure relaxation in microseconds to nanoseconds; and in the case of phonon spectroscopy in solids, we study relaxation phenomena on time scales of picoseconds or less. We also synthesize nanocrystals of a few nanometers in size by chemical synthesis methods and study various phenomena caused by quantum effects in the electron system confined in very small nanocrystals.	Will retire in March, 2025.
	Assistant Professor	YAMAMOTO Sekika		
Statistical Physics	Professor	NEMOTO Koji	We theoretically study novel physical phenomena in strongly-correlated electron systems based on quantum mechanics and statistical physics. We aim to systematically understand physical phenomena and explore the possibility of new electronic states and quantum phenomena. The recent research topics are the following. (1) Classification of electronic physical properties based on microscopic multipoles (2) Topological magnetism including magnetic skyrmions (3) Emergent spin-orbit-coupled physics in magnetic materials (4) Cross-correlated phenomena over electric, magnetic, elastic, heat, and light (5) Exploring novel physics by using a machine-learning method We also study efficiency of heat engines using nonequilibrium statistical mechanics and complex dynamics in pattern formation and chaos of coupled-oscillator systems, using not only theoretical analysis but also numerical simulation.	Will retire in March, 2025.
	Professor	KITA Takafumi		Will retire in March, 2025.
	Associate Professor	HAYAMI Satoru		
	Assistant Professor	OKUDA Koji		

Laboratories	Supervisors		Keywords	Remarks
Mathematical Physics	Professor	YAMAMOTO Shoji	Making full use of various—both analytical and numerical—quantum statistical methods, we explore novel quantum cooperative phenomena in strongly correlated electron systems. A recent keyword is "topology". Interpretation of phenomena must be our ultimate goal, but we often take further interest in the mathematical and methodological ways we can accomplish this. We construct microscopic theories on a variety of physics such as quantum spin liquid, photoinduced magnetism, nuclear magnetic resonance, inelastic neutron scattering, Raman scattering, optical conductivity, and angle-resolved photoemission spectroscopy. We sometimes enjoy theoretical formulation in itself and sometimes interpret observations in cooperation with experimentalists and chemist.	
	Lecturer	OHARA Jun		
Nanostructure Physics (RIES)	Professor	KOBAYASHI Kaya	Superconductors and magnets, novel materials synthesis, layered materials, transition metal dichalcogenides, van der Waals heterostructure, material characterization, thin flake devices, thin film, MBE, TEM	
	Associate Professor	KONDO Kenji	Qunatum field theory, Many-body perturbation theory, Spintronics devices, Magnetism, Electronic correlations, Dirac electron, Topological insulator	No acceptance for FY2025
Condensed Matter Theory Field of Advanced Functional Materials and Physics (NIMS).	Visiting Professor	YAMASE Hiroyuki	Quantum many-body theory, Superconductivity, Magnetism, Critical phenomena, Electronic nematic liquids	
Nano-system Photonics Field of Advanced Functional Materials and Physics (NIMS)	Visiting Professor	NAGAO Tadaaki	Surface physics, Nanophotonics, Energy conversion, Nanomaterials	
Solid State of Physics in High Magnetic Fields Field of Advanced Functional Materials and Physics (NIMS)	Visiting Professor	IMANAKA Yasutaka	Magneto-Spectroscopy, High magnetic field, Terahertz wave, Cyclotron resonance, Quantum Hall effect, Dirac Fermion, Topological insulator	
Surface Quantum Phase Materials Field of Advanced Functional Materials and Physics (NIMS)	Visiting Professor	UCHIHASHI Takashi	Surface and interface, Atomic layer, Two-dimensional, Quantum materials, Superconductivity, Topological state, Ultrahigh vacuum, Nanotechnology, Scanning tunneling microscopy, Electron transport	
Muon Spin Resonance Laboratory Field of Spin Resonance Material Science (RIKEN)	Visiting Professor	WATANABE Isao	μSR material science at the RIKEN-RAL Muon Facility in the UK. Experimental and theoretical studies on the magnestism, superconductivity, industiral applications, non-distructive element analysis, muon hyperfine interactions in metals, insuators and organic molecules. Muon site and magnetic spin structural analysis by the density functional theory.	
Electron Spin Resonance Laboratory Field of Spin Resonance Material Science (RIKEN)	Visiting Associate Professor	OSHIMA Yugo	Electron Spin Resonance (ESR) from X-band to millimeter and sub-millimeter waves, High magnetic field, Strongly-correlated materials, Molecular magnets, Molecular conductors, Spin-Liquid system, Nano-carbon materials.	

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As of Novemver 1, 2024

Doctoral Course

Department of Cosmosciences, Graduate School of Science

Laboratories	Supervisors		Keywords	Remarks
Observational Astronomy	Professor	SORAI Kazuo	Observational astronomy, extragalacitc astronomy, interstellar matter, development of observational instruments and system for the Antarctic THz telescope	
	Assistant Professor	SALAK Dragan		Institute for the Advancement of Higher Education
Theoretical Particle Physics and Cosmology	Professor	SUZUKI Hisao	Particle physics, beyond the standard model, dark matter, dark energy, grand unified theory, superstrings, supersymmetry, early universe	
	Professor	KOBAYASHI Tatsuo		
	Associate Professor	SETO Osamu		
	Lecturer	SUEHIRO Kazuhiko		
	Assistant Professor	DAS Arindam		Institute for the Advancement of Higher Education
Theoretical Nuclear Physics	Associate Professor	NOMURA Kosuke	Nuclear structure and dynamics, and related quantum many-body theory, exotic nuclear deformations and collective excitations, nucleosynthesis, double beta decay, machine learning	
Theoretical Astrophysics	Professor	OKAMOTO Takashi	Theoretical astronomy, numerical simulations, semi-analytic modelling, first star formation, first galaxy formation, galaxy evolution, galaxy clusters, supermassive black holes, interstellar matter, star formation	
	Assistant Professor	SUGIMURA Kazuyuki		
Planetary and Space Group	Professor	KURAMOTO Kiyoshi	Origin and evolution of planets and satellites, material evolution during planetary system formation, structure and dynamics of Earth and planetary atmospheres, comparative planetology, space exploration and ground-based observation, experimental studies, theory and hierarchical numerical simulation models, applications of information technology	
	Professor	TAKAHASHI Yukihiro		
	Professor	ISHIWATARI Masaki		
	Professor	SATO Mitsuteru		
	Associate Professor	KAMATA Shunichi		
	Specially Appointed Associate Professor	KUBOTA Hisayuki		
	Lecturer	TAKAGI Seiko		

Laboratories	Supervisors		Keywords	Remarks
Astrophysical Chemistry	Professor	WATANABE Naoki	Interstellar molecules, ice dust, amorphous solid water, surface reactions, nanoparticle, crystallization, nucleation, electron microscopy, microgravity	
	Professor	KIMURA Yuki		
	Associate Professor	OBA Yasuhiro		
	Associate Professor	YAMAZAKI Tomoya		
	Assistant Professor	HIDAKA Hiroshi		
	Assistant Professor	TSUGE Masashi		
Phase Transition Dynamics	Professor	SAZAKI Gen	Phase transition dynamics, crystal growth, ice, snow, interferometry, advanced optical microscopy, atomic force microscopy	
	Assistant Professor	NAGASHIMA Ken		
	Assistant Professor	MURATA Ken-ichiro		
Information Media Science	Professor	FUSE Izumi	Learning science, learning platforms, open education	
	Assistant Professor	YAMAMOTO Yuichi		
Nuclear Reaction Data Science	Associate Professor	HIRABAYASHI Yoshiharu	Nuclear data, nuclear reactions, evaluation	Information Initiative Center
	Visiting Professor	FUKAHORI Tokio		Inter-field Cooperation with the Japan Atomic Energy Agency (JAEA) in the field of nuclear data.
	Visiting Professor	IWAMOTO Nobuyuki		
Spacecraft Observation Group	Visiting Professor	SATO Takehiko	Planetary exploration, infrared astronomy from space, radio astronomy from space	Inter-field Cooperation with Japan Aerospace Exploration Agency (JAXA) in the field of spacecraft observation.
	Visiting Professor	FUJIMOTO Ryuichi		
	Visiting Associate Professor	YAMAMURA Issei		

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Doctoral Course

Department of Natural History Sciences, Graduate School of Science

As of November 1, 2024

Research Fields	Research Groups & Laboratories	Supervisors		Keywords	Remarks
Earth and Planetary Dynamics	Meteorology	Professor	INATSU Masaru	Meteorology, dynamics and forecast, cyclones and fronts, theory and numerical modelling, development of numerical model, meso-scale phenomena, cloud, rain, snow, aerosol, lightning, material transport, and their application.	
		Associate Professor	SATO Yousuke		
	Physical Oceanography and Climate	Professor	MINOBE Shoshiro	Physical oceanography, meteorology, air-sea interactions, climate variability & change, oceans' role in climate, multidisciplinary challenges, numerical modelling, data analysis	
		Associate Professor	SASAKI Yoshinori		
	Space Geodesy	Professor	FURUYA Masato	Space geodesy, GNSS, GPS, INSAR, GRACE, gravity, Earth rotation, atmospheric sensing, crustal deformation, glaciology, planetary geodesy, ionosphere	
		Associate Professor	TAKADA Youichiro		
	Seismology	Professor	YOSHIZAWA Kazunori	Seismic wave propagation, Earth structure, seismic tomography, waveform analysis, seismic source process, microfracture, heterogeneity and anisotropy	
		Associate Professor	NAOI Makoto		

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As of November 1, 2024

Research Fields	Research Groups & Laboratories	Supervisors		Keywords	Remarks
Earth and Planetary System Science	Petrology and Volcanology	Professor	KURITANI Takeshi	Field geology, petrography, igneous petrology, metamorphic petrology, experimental volcanology, geochemistry, volcanoes, ophiolites, plutons, metamorphic belts, crustal evolution, mantle melting, magmatic evolution, magma plumbing system, volcanic eruption, hydrothermal circulation, material circulation	
		Associate Professor	YOSHIMURA Shumpei		
		Assistant Professor	PYTHON Marie		
		Assistant Professor	KITANO Ippei		Hokkaido University Museum
	Geochemistry	Associate Professor	KAWASAKI Noriyuki	Geochemistry, cosmochemistry, planetary chemistry, galaxies, stars, planetary systems, protoplanetary disks, planets, meteorites, Earth, core, mantle, crust, oceans, atmosphere, life, magma, geofluids, mass spectrometry, spectroscopy, microscopy, dust formation, crystal growth, high pressure, solar system evolution, planetary exploration	
		Assistant Professor	BAJO Ken-ichi		
	Earth Materials Science	Professor	NAGAI Takaya	Mineralogy, crystallography, crystal growth, physics and chemistry of minerals	
		Associate Professor	KAWANO Jun		
		Assistant Professor	SHINOZAKI Ayako		
	Paleobiology	Professor	YAMADA Toshihiro	Paleontology, Paleobotany, stratigraphy, vertebrate evolution, dinosaurs, reptiles, birds, phylogenetic relationships, functional morphology, comparative anatomy, embryology, evolution of Mesozoic marine biota, paleobiogeographic responses, global environmental change, origin of modern marine biota	
		Professor	KOBAYASHI Yoshitsugu		Hokkaido University Museum
		Associate Professor	IBA Yasuhiro		

Research Fields	Research Groups & Laboratories	Supervisors		Keywords	Remarks
Earth and Planetary System Science	Earth Bisophere Geoscience	Professor	SAWADA Ken	Paleoenvironmental reconstruction, Organic sedimentology, Molecular paleobiology, Macromolecular biogeochemistry, biomarker paleoclimatology, Organic Geochemistry, paleobiochemistry, biomarker proxies for paleodiversity and paleoenvironments, molecular fossils, plant evolution, paleovegetation reconstruction, High-resolution reconstruction of palaeoenvironments, biogeochemical cycles in reef ecosystems on the geological time scale	
		Lecturer	WATANABE Tsuyoshi		
		Assistant Professor	NAKAMURA Hideto		

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As of November 1, 2024

Research Fields	Research Groups & Laboratories	Supervisors		Keywords	Remarks
Biodiversity	Biodiversity	Professor	KAJIHARA Hiroshi	Biodiversity I: Marine invertebrates, Nemertea, taxonomy, phylogeny, morphology	
		Lecturer	KAKUI Keiichi	Biodiversity I: Marine invertebrates, Crustacea, Tanaidacea, taxonomy, phylogeny, morphology	
		Professor	KOGAME Kazuhiro	Biodiversity II: Taxonomy, phylogeny, evolution, seaweeds,	
		Lecturer	NAKADA Takashi	Biodiversity II: Taxonomy, phylogeny, evolution, microalgae, Chlorophyceae	
		Assistant Professor	Kevin Wakeman	Biodiversity II: Biodiversity, evolution, protists, Apicomplexa, dinoflagellates	Institute for the Advancement of Higher Education
		Specially Appointed Professor	MASUDA Ryuichi	Bidiversity IV (Laboratory of Genetic Diversity): Molecular phylogenetics, population genetics, biogeography, mammals	
		Professor	TAKAGI Masaoki	Biodiversity III: Ecology,evolution,island,bird	
		Associate Professor	ABE Tsuyoshi	Biodiversity II: Seaweeds, taxonomy, phylogeny, chemotaxonomy	Hokkaido University Museum
		Associate Professor	KATOH Toru	Biodiversity I: Evolution, phylogeny, populations, insects	

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As of November 1, 2024

Research Fields	Research Groups & Laboratories	Supervisors		Keywords	Remarks
Science Communication	Communication of Science and Technology	Associate Professor	KAWAMOTO Shishin	science and technology studies, communication in science and technology, transdisciplinary, dual-use	Advancement of Recurrent Education Division
	Philosophy of Science and Technology	Professor	MATSUOU Masahiro	Philosophy of science, ethics of science and technology, philosophy of risk, statistical inference of cause	
	Educational Design	Associate Professor	IWAMA Norikazu	Psychological Statistics, Educational Measurement, Test Theory, Educational Technology, Instructional Design, Self-regulated Learning	Institute for the Advancement of Higher Education
	Communication Media	Professor	SHIGETA Katsusuke	Communication Media, Educational Technology, Information and Communication Technology, Learning Effectiveness, e-learning, Hybrid Learning, Educational Practice Research.	Information Initiative Center, Hokkaido University
		Associate Professor	SUGIURA Mayumi		Institute for the Advancement of Graduate Education

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As of November 1, 2024

Research Fields	Research Groups & Laboratories	Supervisors		Keywords	Remarks
Seismology and Volcanology	Seismological Observation	Professor	TAKAHASHI Hiroaki	Earthquake geophysical observation, seismographs, GNSS, gravity, subduction great earthquakes, inland earthquakes, statistical seismology, land and ocean bottom crustal deformation, regional tectonics in northeastern Asia, geothermal exploration, earthquake disaster mitigation	
		Associate Professor	KATSUMATA Kei		
		Professor	OHZONO Mako		
	Ocean Bottom Seismology and Tsunami	Specially Appointed Professor	TANIOKA Yuichiro	Subsurface structure at subduction zones,elastic wave propagation, tectonics of Northern Mid Atlantic Ridge,earthquake source processes, generation and propagation of tsunamis, pre-historical earthquakes and tsunamis, paleo-seismological analysis, international field science, disaster mitigation	Scheduled to retire in March 2025
		Associate Professor	MURAI Yoshio		
		Associate Professor	NISHIMURA Yuichi		Scheduled to retire in March 2025
		Lecturer	YAMANAKA Yusuke		
	Volcano Physics	Professor	AOYAMA Hiroshi	Volcanology, volcanic seismology, eruption prediction, transport processes, volcano hydrology, crustal deformation, space geodesy, geo-electromagnetism, spectroscopy of volcanic plume, volcano monitoring system	
		Assistant Professor	TANAKA Ryo		
	Subsurface Structure	Professor	HASHIMOTO Takeshi	Subsurface exploration in seismogenic zones and active volcanoes, tectono-electromagnetism, magnetotellurics, geomagnetic field observation, conductivity anomaly	

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