2024 Academic Year

TOHOKU UNIVERSITY
GRADUATE SCHOOL OF LIFE SCIENCES

Master's Degree Program (2-year course)
Self-recommendation Entrance Examination
Student Application Guidelines

Tohoku University Graduate School of Life Sciences
1-1-2 Katahira, Aoba-ku, Sendai 980-8577 JAPAN
TEL +81-22-217-5706
FAX +81-22-217-5704
http://www.lifesci.tohoku.ac.jp/

Information for Prospective Students

Tohoku University Graduate School Admission Policy

Philosophy & Mission

With over 100 years of history and distinguished traditions, Tohoku University has developed excellence in education and research under its principles of "Research First," "Open Doors," and "Practice-Oriented Research and Education" since its establishment in 1907. The university will maintain these traditions while looking toward even more dramatic progress in the future. As a world-leading center of education and research, it will contribute greatly to the human race by grappling with the difficult and complex issues facing the 21st century.

Tohoku University will focus its efforts of its faculties, graduate schools, and research institutes to foster ethical international leaders who will carry humanity into the future, while expanding its globally renowned creative research for the benefit of society at large.

Characteristics

1) Three Foundational Ideals
"Research First," "Open Doors," and "Practice-Oriented Research and Education" — soon after its founding, Tohoku University established this set of unique ideals, the substance of which it is continually developing in response to our changing times.

2) Rich Educational Environment
Tohoku University has numerous research organizations and facilities, primarily comprising 10 undergraduate schools, 15 graduate schools, 3 professional graduate schools, and 6 research institutes. Research institute staff also participate in educational activities (there are approx. 3,000 instructors; enrollment limits are approx. 2,400 for undergraduates, 2,700 for graduate students).

3) Research University
Tohoku University is a school that continuously produces numerous internationally recognized research results and concertedly pushes forward with leading-edge research and education.

4) Active Regional/Industrial-Academic Ties
The university is actively working to expand its diverse regional and industrial ties.

5) Globalizing Education and Research
Among Japan's national universities, Tohoku University is one of the top schools in terms of agreements with overseas universities. It is actively expanding exchange in education and research. The university strives to foster globally active individuals through strong support for studying abroad by Japanese students, as well as recruitment of numerous international students.

Ideal Tohoku University Applicants

Tohoku University seeks students who sympathize with the university's principles and who are motivated by:

1) the desire to make outstanding contributions as world-class researchers by addressing the issues facing humanity in the 21st century, and
2) the desire to make outstanding contributions to the development of society as highly specialized professionals who possess abundant knowledge and leadership.

To realize these ambitions, students should also have strength of will, academic curiosity, a broad perspective, and an excellent foundation of specialized knowledge and abilities.

Tohoku University Admissions Process (Graduate School)

Depending on the number and type of candidates sought, Tohoku University graduate schools provide multiple categories of, and opportunities for undergoing, entrance exams to meet the needs of candidates from diverse backgrounds. Schools may evaluate the candidate's qualifications, abilities, and specialization using interviews, application documents such as research plans, proficiency exams, and external tests.

Graduate School of Life Sciences Admission Policy

The Tohoku University Graduate School of Life Sciences aims to foster leading researchers and engineers who can explore new areas of life sciences using advanced knowledge and technologies. At the same time, we also focus on educating people who can leverage knowledge and technology based on the foundations of life science, and who have a strong background in bioethics and environmental ethics. Therefore, we are looking for students who have a strong motivation to study life sciences and the necessary academic background to complete the program.

In addition to the general selection examinations, we provide special selection examinations for working students, returnee students, and international students. Students are selected based on their motivation to carry out research according to the educational goals of the Graduate School, and their specialized knowledge and skills.

Master's Degree Program (2-year course)

In the first term general selection examination, the applicants are interviewed to evaluate whether they have the basic academic skills and specialized knowledge in each field of life science, as well as the necessary qualifications to carry out research.

In the self-recommendation and the second term general selection examinations, in addition to basic academic skills, specialized knowledge, and qualifications, students' motivation for the research is evaluated through an interview. For the applicants who have studied fields other than life science, the willingness to use their academic knowledge in life science research is also evaluated.

In the special selection examination for working students, the special selection examination for returnee students, and the special selection examination for international students, applicants are interviewed to evaluate their professional knowledge and qualifications according to their respective characteristics. In all these examinations, English proficiency, which is a common language in the academic world, is examined through external examinations.

Before enrolling in the program, students are expected to learn more about the research methods and the specialized knowledge of the field of study in which they intend to major.

Doctoral Degree Program (3-year course)

In the general selection examination, the special selection examination for working students, and the special selection examination for international students, applicants are required to present their past research and plans for their research after entering the university in an interview to evaluate whether they have the necessary specialized knowledge and excellent qualifications to carry out their research. In addition, students are expected to have sufficient proficiency in English, the common language of the academic world.

Before enrolling in this course, students are expected to learn more deeply about research trends in the corresponding field.

Contents

1. Departments and the Number of Students to be Accepted

Department	Course	Field of Study (Laboratory Name)	Number of Students
Department of Integrative Life Sciences	Brain and Nervous System	Neuroethology, Molecular Ethology, Brain Development, Systems Neuroscience	Few students for each field
	Cellular Network	Membrane Trafficking Mechanisms, Developmental Dynamics, Organelle Pathophysiology, Super-Network Brain Physiology	
	Developmental Regulation Network	Germ Cell Development (*), Cancer Biology, Developmental Neurobiology (*)	
	(Cooperative faculties)	Developmental Neuroscience, Molecular Oncology	
Department of Ecological Developmental Adaptability Life Sciences	Biological Dynamics	Plant Development (*), Histogenetic Dynamics, Plant Sensory and Developmental Biology, Organ Morphogenesis, Plant Cell Dynamics	
	Ecological Dynamics	Aquatic Ecology (*), Functional Ecology, Ecological Integration, Symbiosis Genomics, Macroecology	
	Biodiversity Dynamics	Plant Diversity and Evolution, Conservation Biology, Marine Biodiversity	
	Eco-Socio Dynamics	Ecosystem Functions	
	(Cooperative faculties)	Systems Bioinformatics	
Department of Molecular and Chemical Life Sciences	Chemical Biology	Analytical Bioorganic Chemistry, Biostructural Chemistry, Bioactive Molecules, Molecular and Cellular Biology, Applied Biological Molecular Science	
	Molecular and Network Genomics	Microbial Genetics and Evolution, Plant Molecular Breeding, Molecular Genetics and Physiology, Evolutionary Genomics	
	Multilevel Biomolecular Structure and Dynamics	Molecular Analysis of Biological Functions, Biofunctional Chemistry and Nanobiotechnology, Structural Biology	
	Genome Informatics	Omics and Imformatics	
	(Cooperative faculties)	Chemical biology of Natural Product, Bioorganic Medicinal Chemistry, Redox Biology, Cellular Function, RNA Physiology	
		Total	About 43 students

Notes: The underlined fields indicate the fields of study for which the cooperating teachers are responsible.

Number of students to be accepted: a few students in each field. However, if the number of successful applicants is less than the number of available positions, the vacant positions will be added to the general entrance examination.

(*) Germ Cell Development and Developmental Neurobiology fields from the Department of Integrative

Life Sciences, as well as Plant Development and Aquatic Ecology fields from the Department of Ecological Developmental Adaptability Life Sciences, are not accepting applications.

Purpose

The purpose of self-recommendation admission is to admit students from other universities or students who are not currently under the direct research supervision of Tohoku University Graduate School of Life Sciences faculty members, and to improve the effectiveness of graduate education by promoting student mobility.

2. Eligibility and Application Requirements

Applicants must have excellent academic records and character and must be willing to use the knowledge and experience gained at the Graduate School to play an active role in the future. Applicants must also be able to guarantee that they will enroll into the Graduate School if accepted and must fall into one of the following categories.

1) Those who are expected to graduate from a university other than Tohoku University by March 2024.
2) Those who are not currently being supervised by a faculty member of the Graduate School of Life Sciences at Tohoku University and who are expected to graduate from Tohoku University by March 2024.
3) Those who are enrolled in a major course of study at a college of technology with a completion period of two years, and who are expected to receive a bachelor's degree in March 2024.

3. Application Period

(1) Applicants are required to carefully read this application guide and upload the application documents to the TAO application registration site (hereinafter referred to as "TAO").

(2) In addition, documents that must be submitted in paper form must be sent or submitted during the following period.

Upload period to TAO
From Monday, May 29, 2023 to Friday, June 9, 2023 at 17:00 (JST)

Deadline for submission of application documents (for those documents that must also be submitted in original (hard) paper form)

From Monday, May 29, 2023 to Friday, June 9, 2023 (If mailed, must arrive no later than Friday, June 9, 2023).

In case of submission directly at the office of the Academic Affairs Section, documents can be accepted from 9:00 to 11:50 and from 13:00 to 17:00 on weekdays.

1-1-2 Katahira, Aoba-ku, Sendai 980-8577
Academic Affairs Section, Graduate School of Life Sciences, Tohoku University
TEL: 022-217-5706 Email: lif-kyom@grp.tohoku.ac.jp

4. Application Documents and Procedures

(1) Application Procedure

Please follow the steps below to submit your application via the TAO. Please note that some documents must be submitted in paper form.

The application process is completed by paying the application fee, registering the application information online, and sending the required application materials to the university by express or registered mail (must arrive by the application deadline) within the application deadline. Please note that paying the application fee and registering your application information on the Internet are not the only steps to complete the application process.

1) Confirmation of Application Procedures and Advance Preparation (Preparing Application Materials, Obtaining Application Approval from Prospective Academic Advisor)

First, please read this application guide carefully, confirm that you are eligible to apply, and prepare the necessary application materials.

- Please note that some application materials, such as official TOEFL scores, may take more than a month to be delivered, so be sure to prepare them well in advance.
- Please obtain approval for your application from your academic advisor in the field you wish to study. (For details, please refer to notes 1 and 2 on (2) Application documents and Application materials No. 6.)

2) Examination Fee Transfer (to be made within the application period)

Transfer the examination fee of 30,000 yen and obtain documents (such as bank statements) to verify the transfer. (For details, see (2) Application Materials No. 7 "Examination fee").

If you are applying from overseas, please contact the Academic Affairs Section of the Graduate School of Life Sciences by email.

3) Application registration through TAO

a) To use TAO, please create an applicant account on the TAO website below.
TAO website: https://admissions-office.net/en/portal

b) Next, check the "TAO Application URL" for the entrance examination you wish to apply for on the Graduate School of Life Sciences Entrance Examination Information website, and register your application by entering information and uploading the designated documents at the TAO Application URL.
Graduate School of Life Sciences Entrance Examination Information Website:
https://www.lifesci.tohoku.ac.jp/admission/

・The "TAO Application URL" on the Admission Information website is different for each type of entrance examination. Please make sure that it is the entrance examination you are applying for before registering your application.

・Please be careful not to make any mistakes in selecting the university, department, or entrance exam you are applying for.

・The upload of certificates and other documents is also required at the time of application registration. Please be sure to convert your documents to PDF or another designated format before uploading.

・A temporary save option is available, so please use this function, for example, to make a final confirmation before submitting your application.

4) Submitting documents that require paper originals by the application deadline

For English scores, in addition to uploading the scores to TAO, "original hard copies of designated scores" must also be submitted. Please make arrangements in advance to have them delivered by the end of the application period.

For details on the required scores and how to send them, please refer to No. 9 of (2) Application Materials.

5) Complete the Graduate School of Life Sciences Application Confirmation Form.

The form will be available on the Graduate School of Life Sciences website at the Admissions Information page (see below) depending on the application period, so please complete the form. Please note that some of the questions on the form overlap with those on the TAO form.

Graduate School of Life Sciences Entrance Examination Information Page:
https://www.lifesci.tohoku.ac.jp/admission/

(2) Application documents

Notes:

1) Please contact your prospective supervisor in the field of your interest in advance to fully confirm and mutually understand the research activities and research content that can be conducted in that laboratory.

2) Notify your prospective supervisor that you wish to apply through self-recommendation and obtain his/her approval before applying (see Application Form No. 6).

3) There is a deadline for application. Please contact your academic advisor well in advance.

<table>
<tr><th>No.</th><th>Documents</th><th>Notes</th></tr>
<tr><td>1</td><td>Application form</td><td>Please fill in the information in each section of the "Application for Admission" on the TAO.</td></tr>
<tr><td>2</td><td>Photo data</td><td>Upload the applicant's own photo at TAO.
- The photo must be taken within 3 months before the application.
- The data format must be PNG, JPEG, or JPG.</td></tr>
<tr><td>3</td><td>Statement of reasons for your application</td><td>Please prepare a personal statement with your reasons for applying, future goals, and self-promotion, and upload it in pdf format to the TAO.

Precautions for Preparation
- Please write horizontally on a one-page, A4-size document.
- Please write the applicant's name and field of interest on the first line.
- The standard font size is 11-12 pt. and the standard number of words in the main text is 1,000 (500 words in English).

Example
Name: John Smith
Desired Field of Study: XXX

I am XXXX (write about a reason for applying, etc.)
XXXX

(Font size should be 11-12 pt, approximately 1,000 Japanese characters (or 500 words in English))</td></tr>
<tr><td>4</td><td>Transcript of academic records</td><td>Upload the certificate prepared by the dean of your university (faculty) in PFD format at the TAO.
The original hard copy of the certificate (in paper form) must be submitted during the enrollment procedures (in March 2024).</td></tr>
</table>

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<tr><td>5</td><td>Certificate of expected graduation</td><td>Upload the appropriate certificate from the following from the TAO according to your most recent education.
(Upload in PDF format)
(1) Certificate of expected graduation for applicants who are expected to graduate from a university undergraduate program.
(2) Certificate of acceptance of application for a bachelor's degree or a certificate of application for a bachelor's degree from the principal of the college of technology if the applicant is expected to receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation.

The original hard copy of the certificate (in paper form) must be submitted during the enrollment procedures (in March 2024).</td></tr>
<tr><td>6</td><td>Email confirmation of application approval from prospective supervisor (see note)</td><td>Submit (upload) <u>an email</u> in A4 PDF format to the TAO confirming that you have received approval for your application from your prospective supervisor.
- The email must include the following information
Sender's email address and date of sending,
Recipient's email address and date of receipt,
Applicant's name,
Name of entrance exam,
Field of study, and name of prospective supervisor

- Please refer to the example of the email below.

--Sample e-mail sent by a candidate to a potential supervisor--

Subject: Regarding application for self-recommended entrance examinations for the Graduate School of Life Sciences at Tohoku University

Professor <professor’s name>

My name is <applicant's name> from the Faculty of ○○, ○○ University.
(Reason for application, etc.)
I would like to apply to your laboratory for the self-recommended entrance examination as follows.

Field of study: ○○
Expected supervisor: ○○Professor (or Associate Professor)

Applicant's email signature (name, affiliation, contact information, etc.)</td></tr>
</table>

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<td>
--Sample of a reply e-mail from a prospective supervisor to an applicant -- (Note)

Dear Mr. <applicant's name>

I, <professor’s name>, hereby give my approval to take the self-recommendation entrance examination.

Prospective Academic Advisor: ○○
Field of study: ○○

Email signature of prospective academic advisor (name, affiliation, contact information, etc.)

Note: The reply email from your prospective advisor is a response to your application and does not guarantee admission to the Graduate School of Life Sciences of Tohoku University.
Please contact the faculty members (Associate Professor or higher) you wish to be your advisor one by one, rather than sending emails to several faculty members at the same time.
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<tr>
<td>7</td>
<td>Examination Fee and Confirmation of Examination Fee Payment</td>
<td>
(1) Transfer the application fee of 30,000 yen to the bank account below via bank counter, ATM, or Internet banking during the application period.
(Applicants are responsible for any handling charges incurred at the time of transfer.)
Please be careful not to make any mistakes in the information below.

Payment details:
<table>
<tr><td>**銀行名** / Bank Name</td><td>みつびし　　ぎんこう
三 菱 UFJ **銀 行** / MUFG Bank, Ltd. (**金融機関**/ Bank Code: 0005)</td></tr>
<tr><td>**支店名** / Branch Name</td><td>**わかたけ支店**/Wakatake Shiten
(**支店コード**/ Branch Code: 809)</td></tr>
<tr><td>**預金種別**/ Account Type</td><td>**普通** / Ordinary Savings</td></tr>
<tr><td>**口座番号**/ Account Number</td><td>**2259411**</td></tr>
<tr><td>**カナ名義**/ Account-holder Name in Kana</td><td>**ダイ)トウホクダイガク**/
DAI) TOUHOKUDAIGAKU</td></tr>
<tr><td>**口座名義**/ Account-holder Name</td><td>**国立大学法人東北大学**/ National University Corporation Tohoku University</td></tr>
</table>
Notes
- When making a bank transfer, please enter the **name of the person who will be taking the examination**. Other information (telephone number, etc.) may be entered by the person actually making the transfer (e.g., a relative).
- When transferring money from an account in the name of a person other than the applicant, be sure to change the name of the payee
</td>
</tr>
</table>

		to the **name of the person taking the examination** before transferring the money. - If you are applying for an exemption from the application fee for disaster victims, please do not transfer the application fee. Please refer to the following website for details: https://www.lifesci.tohoku.ac.jp/admission/schedule/ (2) After the transfer, please obtain proof of the transfer, such as a copy of your bank transfer request document, ATM statement, or a copy of your net banking transfer completion screen (please make sure that the transfer procedure has been completed) and upload it to the TAO. (The file format should be PNG, JPEG or JPG.)
8	Certificate of residence (Jūminhyō)	Only for foreigners residing in Japan (whose stay exceeds 90 days), - Upload the certificate in PDF format from the TAO. - The certificate must be issued within 3 months prior to the date of application. - Should include the status of residence and the number of the residence card, but do not need to include the personal number "My Number". The original hard copy of the certificate (in paper form) must be submitted during the enrollment procedures (in March 2024).
9	TOEFL®TEST(*) TOEIC®TEST(**) IELTS or Duolingo score (Note 1)	All applicants are required to submit TOEFL, TOEIC, IELTS or Duolingo English Test score. Tests taken within the two years prior to the first day of the entrance examination are considered valid. Please note that it takes time for scores from each test to be delivered. Please take the tests well in advance of your application to ensure that your scores are received in time. Multiple score submissions are allowed. (e.g. one from TOEIC L&R, one from TOEFL iBT, etc.) **(1) Eligible Scores** ➢ **TOEIC L&R** Group TOEIC IP test score will not be accepted. Official Score Certificate must be submitted. ➢ **TOEFL iBT** (including Home Edition) Group TOEIC ITP test score will not be accepted. Official Score Report must be submitted. The score report for the TOEFL iBT test will automatically include two types of scores: the test result for each test date (Test Date score) and the MyBest™ score. The Graduate School will use the Test Date score. ➢ **IELTS** (Academic Module only) Test Report Form must be submitted. ➢ **Duolingo English Score** The certificate will be issued only on the Internet. Therefore, you

	(Note 1) Grades for Foreign Language (English) will be based on the grades on this score sheet. *TOEFL is a registered trademark of Educational Testing Service (ETS). This material has not been reviewed or approved by ETS. ** The "TOEFL® Test" is referred as the "TOEFL iBT" in these guidelines.	do not need to submit the original paper copy, but it is necessary to pay attention when you take the Duolingo English Test (please refer to (3) below). **(2) Uploading English Scores to TAO** - If you have the official score sheet in hand, please upload (submit) it to TAO. (File format: PDF, PNG, JPEG or JPG) - If you do not have the official score sheet For TOEFL iBT and Duolingo English Tests, please upload your personal copy of the score (or a screenshot of the Internet confirmation screen for test takers, etc.) as a PDF or image file to TAO. If you have difficulty submitting the official score within the application period, please refer to (Note 2) below. **(3) Submission and Mailing of Original English Scores (Note 2)** Please prepare and arrange for delivery of the official score sheet by Friday, June 9, as follows ➢ **TOEIC L&R** Please send the original Official Score Certificate to the Graduate School of Life Sciences, Tohoku University by the registration **(application code: 00015201)** on the Score Confirmation Service. ➢ **TOEFL iBT** Please make sure that your official score report arrives at the Tohoku University Graduate School of Life Sciences by Friday, June 9. The DI code for ETS is **B430** (Graduate School of Life Sciences, Tohoku University). Please note that it will take approximately two months from the time ETS sends your test report to the Graduate School of Life Sciences for delivery. (Please be sure to apply as early as possible, as the arrival time may also vary depending on traffic conditions). Delivery will be confirmed by the Graduate School of Life Sciences. ➢ **IETS** Please send the original Test Report Form (official transcript) by mail. ➢ **Duolingo English Test (No need to submit the original score sheet)** Applicants do not need to submit the original score, but after taking the Duolingo English Test, you will be asked to select the school to which you wish to apply, so please select the Graduate School of Life Sciences. Please take the test well in advance, as it may take some time for the score to be evaluated and in some cases the test may not be approved.

		(Note 2) If you have difficulty submitting the designated score by the application deadline (1) If you have difficulty submitting the official score by the application deadline, please upload the examinee's score (personal verification) when submitting the application through TAO. In addition, please submit a printed copy of this score by mail. (Must be delivered no later than Friday, June 9) (2) If you are unable to submit the original official score (in paper form) by the application deadline, you will be allowed to submit it only if it delivered to the Graduate School by 17:00 on the day before the first day of the examination (Friday, June 30, 2023). If the original score is not received by 17:00 on the day before the first day of the examination, the applicant will be disqualified (failed) and will not be allowed to take the exam. The examination fee cannot be returned. (3) The original official score (in paper form) to be submitted must be the same test score (same type of test, same test administration date, same score and rating) as the examinee's score (personal verification) uploaded to the TAO at the time of application. Submission of scores from a different test (e.g., higher test scores) will not be accepted.
10	Filling out the "Application Confirmation Form" for the Graduate School of Life Sciences	Applicants are required to complete the Application Confirmation Form. The form will be available on the Graduate School of Life Sciences Admission Information Website during the application submission period. Admissions information website https://www.lifesci.tohoku.ac.jp/admission/

(3) Notes

1) Please note that applications will not be accepted if there are any omissions or other deficiencies in the information to be entered or registered. Application documents will not be returned.

2) If false information is provided in the application documents or if the original documents cannot be verified at the time of admission, the acceptance of the application may be canceled, or the admission permit may be withdrawn even after the applicant has already been enrolled.

3) In the event of serious misbehavior prior to enrollment, the school reserves the right to cancel acceptance or revoke admission even after the student has been permitted to enter the graduate school.

4) The examination fee is non-refundable for any reason.

5) Once an application has been received, no withdrawals or changes to the information on the application form will be accepted.

5. Examination and Selection

Selection is based on a review of application materials and an online interview.

1) Date, type, and place of the examination

Date	Time	Examination type	Place	Other
July 1 (Sat) – July 2 (Sun)	From 9:00 (Applicants will be notified of the time of their exam after application)	Online interview (Presentation and Q&A session, including questions for evaluation of academic skills)	A private room with internet access must be arranged by the applicant	Before the start of the examination, you will be asked to use a camera to show the room and your surroundings. Please be sure to have nothing (e.g., dictionaries and notes) except the designated items close to you. No one is allowed to enter your room during the exam.

Applicants are required to give a 10-minute oral presentation (in Japanese or English) on their reasons for applying to the Graduate School of Life Sciences and their research plans after admission to the Graduate School, using presentation software by accessing the URL of the online video conferencing system designated by the Graduate School of Life Sciences. The presentation will be followed by a question and answer session. Details will be provided separately after application.

In order to be sure that the examination will be conducted without problems on the actual day of the examination, a preliminary connection test will be held on June 24 (Sat). Details will be provided separately after application.

2) Regarding Foreign Language (English) Grades

The English score sheet submitted at the time of application will be converted using a common grade calculation method.

6. Announcement of Results

The announcement of successful applicants will be posted on the Japanese version of the Graduate School of Life Sciences website. The results will also be sent to the applicant by registered mail. The Graduate School of Life Sciences will not respond to any inquiries regarding the results.

Scheduled date of announcement: Wednesday, July 12, 2023, around 16:30

Graduate School of Life Sciences website: https://www.lifesci.tohoku.ac.jp/

7. Time of Enrollment

The date of enrollment for the successful applicants will be April 1, 2024.

8. Expenses Required at the Time of Enrollment

The expenses required for admission are as follows.

(1) Entrance fee: 282,000 yen (expected)

(2) Tuition for the first semester 267,900 yen (535,800 yen per year) (expected)

Note 1: The amounts shown above are estimated amounts. In the event of a revision of the entrance and tuition fees, the new amounts will be used from the time of the revision.

Note 2: The details of the payment of the entrance fee and tuition fee will be announced in the documents related to the entrance procedures to be sent in mid-February 2023 (scheduled). The information about the application for waiver and deferment is available at the Financial Support Section, Student Support Division, Education and Student Support Department, Tohoku University.

(Kawauchi-Kita Campus, Education, and Student Support Center, 1F, Window 4, Tel: 022-795-7816, Open from 8:30 to 17:15)

For more information, please visit the Tohoku University website.

Tohoku University website (Entrance and tuition fee waivers and other information):

http://www2.he.tohoku.ac.jp/menjo/

9. Long-Term Course Program

Those who wish to obtain a master's degree in life science by systematically completing the educational program over a certain period, exceeding the standard course length of two years in the Master's Degree Program, due to special reasons ((1) full-time employees of companies or those who run their businesses, (2) those who need to take care of childbirth, childcare, or nursing care, etc., (3) other students who have been approved by the Graduate School) may be permitted to enroll as a long-term course student by submitting the required application at the time of enrollment procedures based on the notice of enrollment procedures that will be sent to successful applicants. The duration of study cannot exceed four years, but students may request to shorten the approved period of study midway through their studies.

Education and research guidance will be provided using the regular curriculum and class schedule.

The annual tuition fee for long-term course students is the amount obtained by multiplying the annual tuition fee for general students by the number of years of the standard course of study (2 years) and dividing it by the number of years of study permitted for long-term course students.

For reference, the annual tuition fee for students enrolled in the 2023 academic year is as follows. In the event of a revision of the tuition, the new tuition will be used from the time of revision.

- Annual tuition for general students with a standard term of study of 2 years: 535,800 yen
- Annual tuition fee for students with 3 years of study permitted: 357,200 yen
- Annual tuition fee for students with 4 years of study permitted: 267,900 yen

10. Handling of Personal Information

(1) In addition to complying with the "Act on the Protection of Personal Information Held by Independent Administrative Agencies, etc." and other laws and regulations, personal information held by Tohoku University are strictly handled by the "Tohoku University Personal Information Protection Regulations," and every effort is made to protect personal information.

(2) Personal information such as examination results used in the selection of applicants will

be used for educational purposes such as selection of applicants, admission procedures, follow-up surveys, post-admission student support (scholarships, tuition exemptions, health care, etc.), and academic guidance, as well as for tuition and other related purposes.

(3) By applying to the Graduate School, applicants are considered to have agreed to the above statement.

11. Other

(1) Application documents and examination fee cannot be returned.

(2) Consultations are available for those who require special consideration for entrance examinations and academic study, so please contact the Academic Affairs Section of the Graduate School of Life Sciences by Monday, May 24, 2023 if needed.

(3) For inquiries regarding student applications, please contact the following

1-1-2 Katahira, Aoba-ku, Sendai 980-8577, Japan
Academic Affairs Section, Graduate School of Life Sciences, Tohoku University
TEL +81-22-217-5706 E-mail lif-kyom@grp.tohoku.ac.jp

(4) Below you will find the Graduate School of Life Sciences website regarding the admissions process. Please check this page from time to time for the latest information. (Q&A and other information is also available.)
https://www.lifesci.tohoku.ac.jp/admission/

May 2023

Graduate School of Life Sciences,

Tohoku University

12. List of Fields of Study for which Students are Accepted (including faculty members and research contents)

1) Department of Integrative Life Sciences

Faculty members marked with ** are scheduled to retire in March 2026.
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Course	Field of Study and Faculty Members	Research Content
Brain and Nervous System	**Neuroethology** Professor TANIMOTO Hiromu Associate Professor KOGANEZAWA Masayuki Assistant Professor HUANG Tzu Ting	We investigate neural mechanisms underlying a wide array of behavior using genetic manipulation of targeted neurons. Our favorite model animals are fruit flies and jellyfish. Behaviors of our interest include associative learning, feeding, sexual behavior, and alcohol preference.
	Molecular Ethology Professor TAKEUCHI Hideaki	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45410 Visit the lab's website. https://sites.google.com/view/molecular-ethology-laboratory/english
	Brain Development Professor ABE Kentaro Assistant Professor AOKI Sho	We study the mechanisms underlying the plastic change of the brain according to a variety of postnatal experiences such as social interaction, lifestyles, or diseases. To investigate, we apply the techniques of molecular biology, behavioral analysis, in vivo live imaging on mouse, songbird, and cell culture as model systems.
	Systems Neuroscience Professor TSUTSUI Ken-Ichiro Assistant Professor OHARA Shinya	We investigate sensory, reward, memory, and executive functions and their underlying neural mechanisms by combining various state-of-the-art techniques, such as electrophysiology, molecular biology, and computational analytics and modeling. As experimental subjects, we use human and non-human primates as well as rodents.
Cellular Network	**Membrane Trafficking Mechanisms** Professor FUKUDA Mitsunori Associate Professor TAJIMA Genichi (C)	Our lab mainly focuses on the Rab protein, which acts as a traffic controller, to understand the molecular mechanisms of membrane traffic that underlies various cellular events such as epithelial polarity formation, exosome secretion, neurotransmission, melanosome transport, and autophagy.
	Developmental Dynamics Professor SUGIMOTO Asako Associate Professor NIWA Shinsuke (C) Assistant Professor HARUTA Nami	Our goal is to elucidate the principles of regulation of cellular dynamics during development and its evolutionary processes. Using several nematode species as model systems, we take an integrated approach that combines molecular genetics, cell biology, biochemistry, and functional genomics. Current research topics include 1) tissue-specific regulation of microtubule dynamics, 2) evolution of the reproductive system, and 3) development of novel chromosome engineering technologies.

Cellular Network	**Organelle Pathophysiology** Professor TAGUCHI Tomohiko Assistant Professor MUKAI Kojiro	Intracellular organelles cooperatively regulate cellular homeostasis, proliferation, and differentiation, through a continuous exchange of soluble and membrane-bound molecules via membrane trafficking and/or membrane contact transfer. A failure in organelle cooperation often results in various human diseases. Our laboratory uses methods in biochemistry, cell biology, and molecular biology to identify novel organellar proteins and lipids. With these methods, we aim to unveil novel functions of organelles and the molecular mechanisms that regulate organelle cooperation.
	Super-Network Brain Physiology Professor MATSUI Ko	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45398
Developmental Regulation Network	**Cancer Biology** Professor CHIBA Natsuko Assistant Professor YOSHINO Yuki	Accumulation of gene mutations in oncogenes and tumor suppressor genes causes cancer. We elucidate the regulatory mechanism of cell division and DNA damage response by cancer-related molecules. Furthermore, we are trying to develop methods to diagnose and treat cancer by elucidating the carcinogenic mechanism caused by the functional failure of cancer-related molecules.
Cooperative faculties	**Developmental Neuroscience** Professor OSUMI Noriko **	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45399 Visit the lab's website. http://www.dev-neurobio.med.tohoku.ac.jp/english/index.html
	Molecular Oncology Professor TANAKA Kozo	Chromosomal instability, a condition in which chromosome missegregation occurs at high rates, underlies age-related diseases such as cancer and neurological disorders. Our goal is to reveal how chromosomal instability occurs and how it is related to the pathophysiology of these diseases, in order to contribute to their prevention and treatment. Using culture cells and mice and various technics such as live-cell imaging, biochemical analysis, genetic and epigenetic analysis, we aim to understand these mechanisms from molecular to organismal level.

2) Ecological Developmental Adaptability Life Sciences

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Course	Field of Study and Faculty Members	Research Content
Biological Dynamics	**Histogenetic Dynamics** Professor KURANAGA Erina Assistant Professor UMETSU Daiki UECHI Hiroyuki (C)	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2525
	Plant Sensory and Developmental Biology Professor HIGASHITANI Atsushi(C) Associate Professor FUJII Nobuharu	Our research is aimed at understanding the relationship between plant growth and environmental cues such as water and gravity. Important findings include that plant roots show hydrotropism in response to moisture gradients, which, together with gravitropism, plays an important role in regulating root growth orientation in order to efficiently obtain water. We use physiological and genetical analyses to understand regulatory mechanisms of those.
	Organ Morphogenesis Professor TAMURA Koji Assistant Professor SHIOMI Kozue (C) UESAKA Masahiro	We investigate the mechanisms underlying morphogenesis in the vertebrate limb/fin development and regeneration as model systems. Also, we endeavor to elucidate the evolution of developmental programs that diversify the vertebrate morphology through comparative developmental experiments, as well as genomic, transcriptomic, and epigenomic comparisons.
	Plant Cell Dynamics Professor UEDA Minako Assistant Professor KIMATA Yusuke MATSUMOTO Hikari	We aim to understand what happen in the plant cell and how they lead to the plant development. In particular, we are focusing on the cells that play a central role in the plant body formation, such as the zygote, and performing high-resolution live imaging to reveal the intracellular dynamics and genetic analysis to identify the regulatory mechanisms.
Ecological Dynamics	**Functional Ecology** Professor HIKOSAKA Kouki Assistant Professor TOMIMATSU Hajime	We study ecology of plants mainly by analyses of plant functions such as photosynthesis, resource acquisition and use, and stress responses. Recent our interests are (1) adaptation to various environmental factors with focusing on natural variations, (2) remote sensing of plant functions, (3) modeling of plant functions, and (4) field ecology for moorlands and forests.
	Ecological Integration Professor KONDOH Michio Associate Professor SAKAI Satoki** Assistant Professor KAWATSU Kazutaka	Using mathematical and statistical models, we aim to understand the complexity of ecological systems, as well as to develop a field of “practical ecology” that enables prediction, control, and design of ecosystems. (Kondo Lab.) We will explore the factors that led to the evolution of diverse plant characteristics. We are in particular interested in adaptive strategies in plants. (Sakai Lab.)

Ecological Dynamics	**Symbiosis Genomics** Professor SATO Shusei Associate Professor MITSUI Hisayuki Assistant Professor BAMBA Masaru	The research targets are plant-microbe interaction, based on “symbiosis” in the narrow sense, and environmental interaction, based on “symbiosis” in the broad sense. We are aiming to explore complex interrelated network of organisms and the surrounding environments by using genomics approaches, such as population genomics and comparative genomics.
	Macroecology Associate Professor KASS, Jamie M.	We conduct research using big data and large-scale analyses to answer pressing questions about biodiversity, which is declining due to human-driven global change. To do this, we employ geospatial analysis and statistical modeling to predict and map species’ ranges and biodiversity over space and time. Research applications include range movement due to climate change, alien species invasion risk, ecosystem service provisions, and conservation prioritization. We also develop programming tools to advance macroecological analyses.
Biodiversity Dynamics	**Plant Diversity and Evolution** Professor MAKI Masayuki Assistant Professor OHYAMA Motonari ITO Takuro	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2552
	Conservation Biology Professor CHIBA Satoshi** Assistant Professor KIMURA Kazutaka	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2554
	Marine Biodiversity Professor KUMANO Gaku KONDO Michio (C) Associate Professor MINOKAWA Takuya Assistant Professor IWASAKI Aiko MORITA Shumpei	We are studying using various kinds of marine animal inhabitants around Asamushi on animal development such as germline development, tissue/organ morphogenesis and cell differentiation, on animal diversity and evolution, and on morphologies of rarely studied animals at their critical developmental stages. We are also studying using marine organisms, such as benthos, on determining their distributions, community structures and diversities through their biological interactions and abiotic factors.
Eco-Socio Dynamics	**Ecosystem Functions** Visiting Professor TAYASU Ichiro Visiting Associate Professor ISHII Reichiro	We study the ecosystem functions, the evaluation of ecosystem services, and the response mechanisms of ecosystems to global environmental change from the analysis of the structure and dynamics of biological communities using stable isotope approaches and modeling techniques.

Cooperative faculties	**Systems Bioinformatics** Professor KINOSHITA Kengo	As in the case of the data from next generation sequencer, the experimental data are increasing year by year. The data contribute to the elucidation of life science only when it is analyzed in the correct form and made into information. In this laboratory, we will conduct research on data-driven bioinformatics that analyzes vast amounts of life science-related data, including genome omics, by making full use of data science methods such as machine learning and statistical analysis.

3) Molecular and Chemical Life Science

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Course	Field of Study and Faculty Members	Research Content
Chemical Biology	**Analytical Bioorganic Chemistry** Professor ARIMOTO Hirokazu Assistant Professor TAKAHASHI Daiki	The Arimoto Group studies small molecules that contribute to human health care. We developed AUTAC degraders that selectively degrade cytoplasmic materials via autophagy; the removal of "dysfunctional mitochondria, protein aggregates, and pathogens" utilizing AUTAC technology will contribute to the control of disease and aging. We are also developing antimicrobial agents against vancomycin-resistant strains. We utilize a variety of chemical and biological techniques, including eukaryotic and bacterial cell culture, biochemistry, molecular biology, and organic synthesis.
	Biostructural Chemistr Professor SASAKI Makoto** Assistant Professor UMEHARA Atsushi	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2517
	Bioactive Molecules Professor ISHIKAWA Minoru Assistant Professor TOMOSHIGE Shusuke SATO Shinichi (C)	We study novel strategies that employ methods of organic chemistry, and molecular and cellular biology to regulate disease related proteins. An example is PROTAC (proteolysis targeting chimera) which induces degradation of a target protein through hijacking ubiquitin-proteasome system. Our research focuses on PROTAC for the treatment of neurodegenerative diseases.
	Molecular and Cellular Biology Professor OHASHI Kazumasa Associate Professor YASUMOTO Ken-ichi Assistant Professor CHIBA Shuhei	Our research focuses on the phenomenon that cells sense and respond to the external environment. We aim to elucidate the molecular mechanisms that regulate cell morphology, motility, growth, differentiation, and ordering of cell populations in mammalian cells by sensing mechanical stresses such as stiffness and force subjected to the external environment. We will also elucidate the molecular mechanisms of the cellular stress response.
	Applied Biological Molecular Science Professor TANAKA Yoshikazu Assistant Professor YOKOYAMA Takeshi	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2518
Molecular and Network Genomics	**Microbial Genetics and Evolution** Professor NAGATA Yuji Associate Professor OTSUBO Yoshiyuki Assistant Professor KISHIDA Kouhei	Some bacteria can degrade anthropogenic pollutants. We aim to comprehensively understand how such bacteria adapt and/or evolve quickly toward environmental changes by using microbiological, molecular genetic, molecular biological, protein engineering, cell biological, genomic, and ecological approaches, as well as to develop new technologies to effectively utilize unexplored microbial functions.

Molecular and Network Genomics	**Plant Molecular Breeding** Professor WATANABE Masao Associate Professor KANNO Akira	The development of high-speed genome analysis and genome editing technologies is making it possible to conduct molecular breeding of higher plants. Based on these technologies, we will conduct interdisciplinary research to elucidate the functional principles of key genes that control flower morphogenesis and reproductive processes in plants. Through molecular modification of key genes based on these studies, we aim to achieve a comprehensive understanding of the network of key genes regulating the flower morphogenesis and reproduction in plants.
	Molecular Genetics and Physiology Professor HIGASHITANI Atsushi Associate Professor HIDEMA Jun Assistant Professor TERANISHI Mika	We are investigating the survival strategy of living organisms, plants and nematodes at the molecular and physiological levels. In particular, the main focus is on the effects of ultraviolet light (UVB), space microgravity and aging on damage to DNA, organelles, and tissues.
	Evolutionary Genomics Professor MAKINO Takashi Lecturer YOKOYAMA Ryusuke Assistant Professor BESSHO Kanako	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45408 Visit the lab's website. https://www.lifesci.tohoku.ac.jp/evolgenomics/home-en/
Multilevel Biomolecular Structure and Dynamics	**Molecular Analysis of Biological Functions** Professor TAKAHASHI Satoshi Associate Professor KAMAGATA Kiyoto Assistant Professor OIKAWA Hiroyuki	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2519
	Biofunctional Chemistry and Nanobiotechnology Professor MIZUKAMI Shin Assistant Professor KOWADA Toshiyuki	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2526 Visit the lab's website. http://www2.tagen.tohoku.ac.jp/lab/mizukami/html/index.html
	Structural Biology Professor INABA Kenji Associate Professor KADOKURA Hiroshi OKUMURA Masaki (C) Assistant Professor WATANABE Satoshi	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2524

	Structural Mechanism Research and Development Professor YONEKURA Koji TAKAHASHI Satoshi(C) Associate Professor HAMAGUCHI Tasuku	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory---id-45416.html
Genome Informatics	**Omics and Imformatics** Visiting Professor HIRAKAWA Hideki Visiting Professor IKEDA Kazutaka	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=2549 Visit the lab's website. http://www.kazusa.or.jp/en/
Cooperative faculties	**Chemical biology of Natural Product** Professor UEDA Minoru	Laboratories in Graduate School of Life Sciences website https://www.lifesci.tohoku.ac.jp/en/research/fields/laboratory.html?id=45402
	Bioorganic Medicinal Chemistry Professor DOI Takayuki	Synthetic methods for biologically active natural products and application to the rapid synthesis of their analogues are studied to elucidate the structure-activity relationship and their target molecules. We aim to clarify the structural features necessary for the expression of activities and to discover new potent compounds.
	Redox Biology Professor MOTOHASHI Hozumi	Redox reactions play central roles in energy metabolism, signal transduction, and proteostasis. Our goal is to understand pathogenesis of age-related diseases, such as cancers and chronic inflammation, from the view point of redox regulation using biochemical and molecular biological approaches.
	Cellular Function Professor NAKAYAMA Keiko**	Our goal is elucidation of the molecular mechanisms of cell differentiation, proliferation and senescence using biochemical, cell biological and developmental engineering methods. We aim to understand the pathogenic mechanisms of malignant tumors and neurodegenerative diseases, which are thought to be driven by disruption of cellular function.
	RNA Physiology Professor WEI Fan-Yan Assistant Professor OGAWA Akiko MATSUDA Shigeru	The primary interest of our laboratory is the post-transcriptional modification of RNA in mammalian cells. We aim to elucidate the biological functions of RNA modification in the regulation of energy metabolism, protein translation, and cell signaling, and to understand how RNA modification is involved in the regulation of physiological functions in vivo and in the development of disease. We hope to apply RNA modification technology to establish new disease biomarkers and contribute to drug discovery.

Notes: - Information about research in each laboratory of the Graduate School of Life Sciences, Tohoku University: https://www.lifesci.tohoku.ac.jp/en/research/fields/

- The campuses of the Graduate School are located in Sendai City, Aomori City (Aomori Prefecture), Kyoto City (Kyoto Prefecture), and Kisarazu City (Chiba Prefecture). The Marine Biodiversity Field is located at the Asamushi Research Center for Marine Biology belonging to the Graduate School in Asamushi, Aomori City, Aomori Prefecture. The Ecosystem Functions Field is located at the Research Institute for Humanity and Nature, Kyoto, Japan. The Omics and Informatics Field is located at the Kazusa DNA Research Institute in Kisarazu, Chiba, Japan.