Graduate School of Science and Engineering

Guide for Summer 2021 Application for Ph.D. Program

Admission Examination
for International Students to Enroll in October 2021

Admission Examination
for International Students to Enroll in April 2022

June 2021

University of Toyama

Admission Policies of Ph.D. Program of Graduate School of Science and Engineering

【Admission Policy】

Each major field in the Graduate School of Science and Engineering, Doctoral Course, University of Toyama seeks students with the following characteristics.

<Advanced Mathematics and Human Mechanisms>

- Students who are full of curiosity about the relationship between natural / social environment and human life, and who endeavor to actively enhance ability to pursue their own ends using broad insight and scholastic ability in their major field.
- Students who are full of curiosity about mathematical truth, and who endeavor to actively enhance ability to pursue their own ends using flexible and logical thinking.
- Students who aim to actively do something to change the local and the global society.

<Nano and Functional Material Sciences>

Students who have basic knowledge about functional materials and who have inquiring mind about research and development of Nano and Functional Material Sciences, such as creation of various functional substances, analysis of physical properties, structure and reactivity, and the development of manufacturing process in consideration of the global environment by making use of nanotechnology, and who aim to contribute to society as a researcher or an advanced engineer.

<New Energy Science>

Students who have a broad outlook covering a baseline study concerning energy, development of new energy, storage/transport/conversion of energy and geo-environment, and who, being highly professional with ability to pursue their own ends, willingly grapple with the forefront scheme of realizing a sustainable society.

<Earth, Life and Environmental Sciences>

Students who have profound interest in each field of geoscience, biology and environmental science and who, with expert knowledge and applied skills obtained through their research, aim to be active members of society.

【Basic Policy of Selection (types of admission and their evaluation)】

<Special Admission for International Students>

Oral examination, interview and the submitted documents. Oral examination and interview are to be given to know if a candidate has linguistic ability appropriate for doctoral level, and to know about subjects of the selected educational field thesis and research plan after being admitted.

【Required Attributes and Abilities】

<Fundamental Abilities>

To be willing to absorb knowledge from a wide range of academic fields centering around science and engineering and to have obtained the power of understanding, logical thinking and expression that are supposed to be basic scholastic abilities of a student with a master's degree.

<Expert Knowledge >

To have profound curiosity about the field of science and technology and to be willing to be an active member of a society with expertise and its applied skills obtained through the research.

<Ethical Perspective >

To be willing to contribute to the sound development of science and technology by voluntarily engaging in research with a sense of responsibility as a member of a society, and ethical perspective.

<Creativity >

To have flexible thinking power and willingness to endeavor to solve unknown or the forefront problems in one's research in order to contribute to a local or the global society.

Contents

Admission Examination for International Students（for enroll in October 2021）

1. Quota

Major	Quota	Remarks
Advanced Mathematics and Human Mechanisms	A few	
Nano and Functional Material Sciences	A few	
New Energy Science	A few	
Earth, Life and Environmental Sciences	A few	

(Note) An applicant must consult the school of his/her major of interest in advance about his/her research plan.

2. Eligibility for application

・A person who does not have Japanese citizenship

・A person who is qualified to stay in Japan for "Student" specified by the "the Immigration-Control and Refugee-Recognition Act" or a person who is expected to be able to change or obtain the qualification to stay in Japan for "Student" after being admitted to the Graduate School.

A person who meets the above requirements and corresponds to one of the following requirements

(1) A person who has a Master's degree or a professional degree (referring to a professional degree specified by Article 5-2 of Rules for Academic Degrees (No. 9 Ministerial Order from the Ministry of Education in 1953) based on the regulations specified in Article 104, Paragraph 1 of the School Education Act, hereinafter, the same) and a person who is expected to receive the degree by Septmber 2021.

(2) A person who has received a degree equivalent to a Master's degree or professional degree in other countries and a person who is expected to receive the degree by Septmber 2021.

(3) A person who has taken courses of correspondence education offered by a school in other countries or in Japan and received a degree equivalent to a Master's degree or professional degree and a person who is expected to receive the degree by Septmber 2021.

(4) A person who has completed the courses of an educational institution that is positioned in Japan as a school that offers courses for a foreign graduate school in the school education system of that country and is designated separately by the Minister of Education, Culture, Sports, Science and Technology and received a degree equivalent to a Master's degree or professional degree and a person who is expected to receive the degree by Septmber 2021.

(5) A person who holds or expects to obtain a Master's degree or equivalent by the end of Septmber 2021, through course completion at the United Nations University (hereinafter referred to as UNU) as prescribe in Article 1 paragraph 2 of the Act on Special Measures Incidental to Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Act No.72 of 1976), which was established under the December 11, 1972 resolution of the General Assembly of the United Nations.

(6) A person who has been recognized by the Graduate School of Science and Engineering as having academic ability equal to or higher than that of a person holding a master's degree after having completed required course at the United Nations University or an educational institution in a foreign country described in (4) and passed the examination or the equivalent examination that was prescribed in Article 16 paragraph 2 of the Rules on Graduate Schools.

(※) For persons wishing to submit an application according to Applications Requirements (6), please enquire in advance to Admission Office (Educational Affairs Division) of the school of Engineering and submit all application documents required by the University of Toyama.

(7) A person who is designated by the Minister of Education, Culture, Sports, Science and Technology (Notification No. 118 of the Ministry of Education in 1989).

(8) A person who was recognized by the Graduate School of Science and Engineering to have the ability equal to or surpassing a person with a Master's or professional degree through the individual examination for admission qualification, and will be at least 24 years old by the time of admission.

(Note) As for certification of the eligibilities (7) and (8) for application, please see "(4) Filing for certification of eligibility for application" of "4. Application procedures".

3. Selection methods

Students eligible to enroll are selected based on the results of the oral examination, interview and submitted documents. The examinees need not take a paper test.

(1) Oral examination and interview

The oral examination (including an exam in Japanese) is about subjects related to the student's preferred education field, Master's thesis, research plan after admission, etc.

(2) Date of examination (oral examination and interview)

Date	Subject for examination, etc.	Time	Site for examination	Remarks
August 23 (Monday), 2021	Arrival time	13:00 ～	School of Science/Engineering, University of Toyama (Gofuku Campus)	
	Oral examination and interview	13:30 ～		

* The location of the place of examination will be indicated on the examinee ID card.

Admission Examination for International Students（for enroll in April 2022）

1. Quota

Major	Quota	Remarks
Advanced Mathematics and Human Mechanisms	A few	
Nano and Functional Material Sciences	A few	
New Energy Science	A few	
Earth, Life and Environmental Sciences	A few	

(Note) An applicant must consult the school of his/her major of interest in advance about his/her research plan.

2. Eligibility for application

・A person who does not have Japanese citizenship

・A person who is qualified to stay in Japan for “overseas education” specified by the “the Immigration-Control and Refugee-Recognition Act” or a person who is expected to be able to change or obtain the qualification to stay in Japan for “overseas education” after being admitted to the Graduate School.

A person who meets the above requirements and corresponds to one of the following requirements

(1) A person who has a Master’s degree or a professional degree (referring to a professional degree specified by Article 5-2 of Rules for Academic Degrees (No. 9 Ministerial Order from the Ministry of Education in 1953) based on the regulations specified in Article 104, Paragraph 1 of the School Education Act, hereinafter, the same) and a person who is expected to receive the degree by March 2022.

(2) A person who has received a degree equivalent to a Master’s degree or professional degree in other countries and a person who is expected to receive the degree by March 2022.

(3) A person who has taken courses of correspondence education offered by a school in other countries or in Japan and received a degree equivalent to a Master’s degree or professional degree and a person who is expected to receive the degree by March 2022.

(4) A person who has completed the courses of an educational institution that is positioned in Japan as a school that offers courses for a foreign graduate school in the school education system of that country and is designated separately by the Minister of Education, Culture, Sports, Science and Technology and received a degree equivalent to a Master’s degree or professional degree and a person who is expected to receive the degree by March 2022.

(5) A person who holds or expects to obtain a Master’s degree or equivalent by the end of March 2022, through course completion at the United Nations University (hereinafter referred to as UNU) as prescribe in Article 1 paragraph 2 of the Act on Special Measures Incidental to Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Act No.72 of 1976), which was established under the December 11, 1972 resolution of the General Assembly of the United Nations.

(6) A person who has been recognized by the Graduate School of Science and Engineering as having academic ability equal to or higher than that of a person holding a master’s degree after having completed required course at the United Nations University or an educational institution in a foreign country described in (4) and passed the examination or the equivalent examination that was prescribed in Article 16 paragraph 2 of the Rules on Graduate Schools.

(※) For persons wishing to submit an application according to Applications Requirements (6), please enquire in advance to Admission Office (Educational Affairs Division) of the school of Engineering and submit all application documents required by the University of Toyama.

(7) A person who is designated by the Minister of Education, Culture, Sports, Science and Technology (Notification No. 118 of the Ministry of Education in 1989).

(8) A person who was recognized by the Graduate School of Science and Engineering to have the ability equal to or surpassing a person with a Master's or professional degree through the individual examination for admission qualification, and will be at least 24 years old by the time of admission.

(Note) As for certification of the eligibilities (7) and (8) for application, please see "(4) Filing for certification of eligibility for application" of "4. Application procedures".

3. Selection methods

Students eligible to enroll are selected based on the results of the oral examination, interview and submitted documents. The examinees need not take a paper test.

(1) Oral examination and interview

The oral examination (including an exam in Japanese) is about subjects related to the student's preferred education field, Master's thesis, research plan after admission, etc.

(2) Date of examination (oral examination and interview)

Date	Subject for examination, etc.	Time	Site for examination	Remarks
August 23 (Monday), 2021	Arrival time	13:00 ～	School of Science/Engineering, University of Toyama (Gofuku Campus)	
	Oral examination and interview	13:30 ～		

* The location of the place of examination will be indicated on the examinee ID card.

4. Application procedures

(1) Method of application

An applicant for admission must first pay an “entrance examination fee” and send the application documents by “registered/express mail.” Indicate“Enclosed application for admission to Graduate School of Science and Engineering (Ph.D. program)” in red, on the left, bottom corner of the envelope.

The applicant may also submit his/her application directly to the University from 9:00 a.m. to 4:00 p.m.

Period of application

July 15 (Tursday) to July 21 (Wednesday), 2021 (as indicated by the postmark on the envelope)

Application documents should be mailed to:

Admission Office (Educational Affairs Division) of the School of Engineering

University of Toyama

3190 Gofuku, Toyama City, Toyama 930-8555, Japan

For method of payment of the “entrance examination fee,” please see “(3) of payment of entrance examination fee.”

(2) Application documents

	Documents	Remarks
①	Application for admission	Please use the form provided by the University.
②	Certificate of (expected) completion of Master’s degree *1,2	To be prepared by the head of the university (education department/ graduate course) from which the applicant graduated. However, a person who completed (is expected to complete) an education department/graduate course of the Graduate School of the University of Toyama is not required to submit this document.
③	Certificate of grade report of graduate school *1,2	To be prepared and strictly sealed by the head or dean of the education department (graduate school head) of the university from which the applicant graduated. The certificate using forgery copy prevention paper is not required to be strictly sealed.
④	Certificate of grade report of undergraduate school *1,2	To be prepared and strictly sealed by the head or dean of the university from which the applicant graduated. The certificate using forgery copy prevention paper is not required to be strictly sealed.
⑤	Examinee ID card/Photo ID card	Please use the form designated by the University, attach a photo of the applicant (H4cm x W3cm , upper body with no head covering, headshot taken within the last three months before submitting the application) to the form and fill out the necessary items.
⑥	C.V.	Please use the form designated by the University.
⑦	Research plan	Please use the form designated by the University and fill out a research plan for this School for Education in the form.
⑧	Copy and abstract of dissertation for Master’s degree *1	One copy of the dissertation and its abstract. However, for a person who has not yet graduated, please describe the progress of the dissertation (within 2,000 characters in Japanese or 1,000 words in English in the designated form). If the applicant has a separate print of a related dissertation, academic lecture, patent, etc., please attach a copy.
⑨	Certificate of payment (entrance examination fee: ￥30,000)	Download and print out the Certificate of payment. Cut along the dotted lines to get your cerificate of payment, then paste it on its designated location in the application from. However, if a person attending each education school (graduate course) of this University and plans to continue the Ph.D. program of the education school, he or she does not need to pay the entrance examination fee.
⑩	Envelope for return	This is used for sending an admission ticket for examination. Please clearly state your postal code, address and name on the envelope (23.5cm x 12cm) and attach a 374-yen stamp to the envelope.

⑪	Certificate of approval for taking examination	Please choose a form. For a person who is enrolled in the Ph.D. program of another university or a person working in a public office or company, please attach a certificate of approval for taking an examination issued by the head of the education school (graduate course) of that university or the head of the division to which the applicant belongs. If he or she is the same person as the recommender in the letter of recommendation, the submission of this certificate is not necessary.
⑫	Pledge (Foreigner residents only)	Security Export Control The University of Toyama has established the "University of Toyama Security Export Control Regulations" based on the "Foreign Exchange and Foreign Trade Act", and strictly screening the International students in the perspective of providing technolgy and export of research equipment and materials. If International students who fall under any of the regulated items, you may not be able to the permission to enrol, and receive the desired education at the university. There may be restrictions on your desired research activities. International students should consult their academic advisor before applying and are required to sign a pledge to comply the "Foreign Exchange and Foreign Trade Act" at the time of application.For more information, please visit the University website. [Reference]"University of Toyama Security Export Control Regulations" URL http://www3.u-toyama.ac.jp/soumu/kisoku/pdf/0110401.pdf
⑬	Copy of the certificate of residence (Foreigner residents only)	For a foreigner who now lives in Japan, please attach a copy of the certificate of residence issued by the head of municipal government or a copy of both sides of the residence card.
⑭	Mailing label	Please use the form designated by the University and fill out your postal code, address, name and its furigana in the form.

*1 A person who corresponds to (7) or (8) eligibility for application and does not have a Master's or Bachelor's degree, the submission of "certificate of completion of Master's degree," "certificate of grade report of graduate school," "certificate of grade report of undergraduate school" and "copy and abstract of dissertation for Master's degree" is not necessary.
*2 Documents written in a foreign language other than English must be accompanied by documents translated into Japanese or English.

(3) Payment of entrance examination fee

Please pay the entrance examination fee of 30,000 yen according to "payment Flow of Entrance Examination Fee"on page 7

The Entrance Examination Fee Payment Website https://e-apply.jp/n/toyama-gs-payment/

Cautions

- The applicant must Pay the handing fee in addition to the entrance examination fee.
- Please enter the same personal information as the application for admission on the payment form. The entrance examination fee can be paid one week in advance to the application period.

However, if a student attending each education school (graduate Master's program) of our university corresponds to any of the following, he or she does not have to pay the entrance examination fee.

○ When a person who is expected to complete the graduate school of our university in September 2021 applies for admission in October 2021

○ When a person who is expected to complete the graduate school of our university in March 2022 applies for admission in April 2022

The entrance examination fee shall not be returned to the applicant for any reason except in the following cases.

① The applicant paid the entrance examination fee, but did not apply for admission to the University of Toyama (did not submit the application documents or the application documents were not accepted).

② The applicant paid the entrance examination fee twice.

③ The applicant paid more than the designated examination amount.

(Note) If you need to request for return of the entrance examination fee, please be sure to attach the "Certificate of Transferred Amount (Entrance Examination Fee)" to the attached Request for "Returnd of Entrance Examination Fee" and send it to the University of Toyama by mail.

Send to: Accounting Division of Financial Affairs Office, University of Toyama
3190 Gofuku, Toyama City, Toyama 930-8555, Japan
Tel: 076-445-6053 (Int'l calls:+81-76-445-6053)

Payment Flow of Entrance Examination Fee

Prepare an Email address, a computer that is connected to the Internet, and printer.

Your application is NOT complete until you have registered your information in the entrance examination fee payment website.
Send us the required documents and the entrance examination fee payment certificate to University of Toyama.

Payment Website

STEP 1 Go to the Entrance Examination Fee Payment Website

The Entrance Examination Fee Payment Website

https://e-apply.jp/n/toyama-gs-payment/

or

Official Website of University of Toyama

https://www.u-toyama.ac.jp/admission/graduate-exam/graduate/

Register

STEP 2 Register Personal Information

1) Make sure you follow the screen procedures and important notices.
2) Choose the payment method of entrance examination fee.
3) Enter the required information and record the payment processing number.

Payment

STEP 3 Pay Entrance Examination Fee

【Pay at the Convenience Store, Pay-easy ATM banks, Internet banking】

Make a payment at the convenience stores (Seven Eleven, Lawson, Ministop, Family Mart, Daily Yamazaki, and Seico Mart), Pay-easy ATMs of Post offices or Banks, and internet banking.

※Payment can not be made at stores outside Japan.

【Pay with Credit Card】

Make sure the card number, expiration date, card holder name, and security code, to pay the fee.

(Accepted Credit Cards)
VISA, Master, JCB, AMERICAN EXPRESS, MUFG Card, DC Card, UFJ Card, NICOS Card

Print

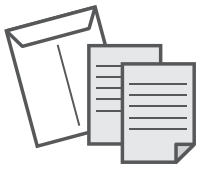
STEP 4 Print out the Certificate of Payment

The Entrance Examination Fee Payment Website

https://e-apply.jp/n/toyama-gs-payment/

Click on "Review" button to download and print out the Certificate of Payment. Cut along the dotted lines to get your certificate of payment, then paste it on its designated location in the application form.

Send



STEP 5 Send all application documents

Send the form with pasted certificate of payment and all other application documents, via registered express mail at the post office, within the application submission deadline.

※See the details of each school/graduate school for application guide.

- Make sure the information you enter is correct, as you will not be able to revise/change any of this information after registration is complete. However you may re-register the correct information and "revise" the information this way, as long as it is before you have made the payment.

※Take notice that if you chose to pay with your credit card, the payment will be made as soon as you register your personal information.

(4) Filing for certification of eligibility for application

① The scope specified in the "Eligibility for Application (7)" is a person who meets the following requirements: (a) and (e) or (b) and (e).

② The scope specified in the "Eligibility for Application (8)" is a person who meets the following requirements: (c) and (e) or (d) and (e).

(a) A person who has the experience of being engaged in research at a university, research institute, etc. for two years or more after graduating from university.

(b) A person who has the experience of being engaged in research at a university, research institute, etc. for two years or more after completing 16-years of courses in school education in a foreign country or after completing 16-years of courses in school education in a foreign country by taking courses in Japan through correspondence education offered by a school in that country.

(c) A person who graduated from a junior (two-year) college, technical college (specialized vocational high school), special vocational school and other types of school or who has completed a Japanese school of a foreign university, etc. and does not have a Master's degree, but has the experience of being engaged in research at a university, research institute, etc. or who has working experience in a science or technology-related field for two years or more and will be at least 24 years old by the time of admission.

(d) A person who has working experience in a science or technology-related field for two years or more after graduating from university.

(e) A person who has a research achievement such as his or her book, scientific paper, scientific lecture, scientific report, patent, etc. that is recognized to have the same or more value as the dissertation for a Master's degree.

③ A person who applies based on the "Eligibility for Application (7) or (8)" is subject to preliminary review for eligibility. Please gather the following documents and submit them to the Admission Office (Educational Affairs Division) of the School of Engineering of the University of Toyama by 4:00 p.m. on July 2 (Friday), 2021. When the documents are mailed, they must be received by the above deadline.

・Graduate certificate
・Grade report from the applicant's highest level of schooling
(prepared and strictly sealed by the head or dean of the school from which the applicant graduated)
・Review report for certification of eligibility for application for admission examination
(The University of Toyama's designated form)
・Research and working report of achievement (The University of Toyama's designated form)
・Separate copies of research/scientific papers, etc.

The review results shall be notified by July 9 (Friday), 2021 approximately. A person who is certified must complete the application procedures within the designated period.

(5) Preliminary consultation for a physically-handicapped applicant

Because a physically-handicapped applicant may need special consideration when taking an examination or attending the university, please consult the Admission Office (Educational Affairs Division) of the School of Engineering of the university prior to the application.

During the consultation, we may ask for the submission of a document describing the following matters and a doctor's certificate.

・Type and severity of disability
・Matters for which the applicant requests special consideration when taking an exam
・Matters for which the applicant requests special consideration when attending the university
・Situation of daily living and other matters that can be referred to

① Deadline for consultation: July 2 (Friday), 2021 at 4:00 p.m.

② Contact: Admission Office (Educational Affairs Division) of the School of Engineering
University of Toyama
3190 Gofuku, Toyama City, Toyama 930-8555, Japan
Tel: 076-445-6399 (Int'l calls:+81-76-445-6399)

5. Announcement of successful applicants

The identification numbers of successful applicants shall be posted in front of the gate of Education and Research Building in the School of Engineering, University of Toyama (Gofuku Campus) at 4:00 p.m. on September 3 (Friday), 2021 and the successful applicants shall be notified separately.

The University will not respond to any inquiry about the qualification status by phone, fax, etc.

6. Admission procedures

The admission procedures shall be as follows, but the successful applicants will be notified of the details individually.

(1) Deadline for admission procedures

(for enroll in October 2021) Middle of September 2021 (subject to change)

(for enroll in April 2022) Middle of March 2022 (subject to change)

(2) Expenses required for admission procedures

① Enrollment fee: 282,000 Japanese yen (subject to change)

However, if a student is expected to complete each education school (graduate Master's program) of our university and corresponds to any of the following, he or she does not have to pay the entrance examination fee.

○ When a person who is expected to complete the graduate school of our university in September 2021 applies for admission in October 2021

○ When a person who is expected to complete the graduate school of our university in March 2022 applies for admission in April 2022

The above admission fee is the scheduled amount. If the admission fee is revised at the time of admission, a new admission fee will be applicable from the time of revision.

② Other expenses such as disaster and injury insurance for students, and education and research fees will be required separately.

(Notes)

1. The tuition may be paid after admission. The exact amount of the fees of academic year 2022 and detailed method of payment will be explained at the time of the admission procedures. The tuition of academic year 2021 was 535,800 Japanese yen.
2. The paid admission fee can not be refunded for any reason.
3. If he or she has difficulty arranging the payment of the admission fee and tuition, the successful applicant may be exempted or his/her payment postponed. The successful applicant may apply for a scholarship loan from organizations such as the Japan Student Services Organization.

(3) Caution

If a person does not complete the admission procedures by the deadlines, he or she will be considered to have withdrawn from admission.

7. Protection of personal information of an applicant for admission

The personal information possessed by the University shall be handled based on the “Act on the Protection of Personal Information Held by Independent Administrative Agencies, etc.” and “University of Toyama Rules for Protection of Personal Information.”

(1) The names, addresses and other personal information of applicants learned at the time of application shall be used for ① selection of students to be enrolled (application processing, implementation of selection), ② announcement of successful applicants, ③ admission procedures, ④ survey/study in the selection method of enrolled students, and ⑤ operations associated with these purposes.

(2) Among the personal information learned at the time of application, only the information of those who completed the procedures for admission to our university shall be used for post-admission operations related to ① educational instruction (school registry, attending instruction, etc.), ② student support (health management, application for tuition waiver/scholarship, career support, etc.), ③ collection of tuition, and ④ statistical survey and data analysis.

(3) Only the applicant ID numbers, names and addresses of successful applicants may be used for contact with the organizations associated with the university, alumni association and co-op. Note: If a successful applicant does not wish to have any contact with the above organizations, please inform the Admission Office (Educational Affairs Division) of the School of Engineering to that effect.

(4) In the use of personal information for various types of operations, some of the operations may be conducted by a vendor contracted with the relevant operations from our university (hereinafter referred to as "contractor"). When contracting the operations, all or part of the personal information learned shall be provided to the contractor within the limit necessary to perform the contracted operations. We supervise the use of information to ensure compliance with confidentiality.

8. Long-term curriculum program

A long-term curriculum program is a program intended for those who cannot complete the curriculum under the standard course term because the curriculum hours for classes and research instruction are limited due to reasons such as they are working (full-time) and they intend to complete educational courses in a planned manner during a certain period longer than the standard course term. In our Ph.D. program, the student's school days are accepted up to a total of 6 years. If permitted at the time of admission, the total amount of tuition to be paid in the standard course term (3 years) can be paid evenly for each school term during the period accepted as a long-term curriculum period.

* Details, including the method of application for this program, shall be notified to applicants when the documents for admission procedures are sent.

* Please note that not every applicant is necessarily permitted to enter this program.

9. Cautions

(1) If there are any defects in the application documents, the application may not be accepted.

(2) If there is a shortage in the entrance examination fee payment, the application shall not be accepted.

(3) Any change in the documents after completing the admission procedures shall not be accepted.

(4) The application documents, etc. once accepted shall not be returned for any reason.

(5) Be sure to bring the examinee ID card when taking the examination.

(6) If any fact that is different from the description in the submitted documents is found, even after acceptance of admission, the admission of a successful applicant may be cancelled.

(7) Please forward any inquiry about the application or other matters to the following address.

Admission Office (Educational Affairs Division) of the School of Engineering
University of Toyama
3190 Gofuku, Toyama City, Toyama 930-8555, Japan
Tel: 076-445-6399 (Int'l calls:+81-76-445-6399)

10. Corresponding about novel coronavirus infection（COVID-19）

The contents of these guidelines for recruiment of students may be changed in light of the spread of the novel coronavirus infection (COVID-19).

Please be sure to obtain the latest information from the following website.

https://www.u-toyama.ac.jp/

Enroll in October 2021
Outlines of Ph.D. Program of Graduate School of Science and Engineering, University of Toyama

The Ph.D. Program of the Graduate School of Science and Engineering is composed of four majors; Advanced Mathematics and Human Mechanisms, Nano and Functional Material Sciences, New Energy Science and Earth, Life and Environmental Sciences. The outlines of these majors are shown below.

(1) Advanced Mathematics and Human Mechanisms

In the midst of the rapid development of the advanced information society, further improvement should be made for all the people to live safely and comfortably without suffering from arising problems such as aging of population. In order to meet such social demands, we teach mathematics, electrical engineering, information engineering, and mechanical engineering and educate advanced research engineers who can play pivotal roles in their specialized fields including design of various mechanical equipment the computers for controlling the equipment, development of advanced information/communication systems, and computational science for promoting affluence and wealth of our lives through human engineering based on the system analysis of the biological mechanisms.

Educational field	Education and Research	Supervisors	Related lectures
Basic computer engineering	We conduct education and research on software development for practical use of computers, analysis and development of algorithms for useful software and advanced signal processing analysis in computer systems.	Prof. Shigeki Hirobayashi	Advanced signal processing
		Associate Prof. Tadanobu Misawa	Advanced machine learning
Computer applications engineering	We conduct education and research on QoE of multimedia applications/services, intellectual image processing for ITS, MaaS application for sharing mobility, energy management system using IoT devices, error control coding for reliable communications, smart sensing strategies usability engineering, network engineering in the era of ubiquitous-networks, and quantum information such as quantum cryptography and quantum repeaters.	Prof. Yuukou Horita	Advanced image communication
		Prof. Kiyoshi Tamaki	Advanced quantum information processing
		Lecturer Tatsuto Murayama	Advanced statistical science
Bio-medical informatics	We conduct education and research on visual information processing engineering, emotional information processing engineering, sensing and imaging technologies, signal and image processing, pattern recognition, color engineering, evaluation and analysis of CG/3-D visible images, optical and visual environment engineering, traffic visual environment engineering, urban landscape lighting, the hot issues of development of universal design for elderly persons and people with synesthesia, visual neurophysiology, neural computing, synaptic plasticity, bioinformatics. and development of hardware and software for image information processing inspired by intriguing human sensory information processing mechanisms.	Prof. Hideyuki Hasegawa	Advanced medical information sensing
		Prof. Takashi Katagiri	Advanced computational biophotonics
		Prof. Toshihide Tabata	Advanced biological information processing
		Associate Prof. Mamoru Takamatsu	Advanced emotional processing information engineering
		Associate Prof. Yusuke Oshima	Advanced clinical informatics engineering

Superhigh frequency and optical information transmission engineering	We conduct education and research on information communication and transmission with high-speed optical, wireless, wired and sound systems including system design, network analysis, optical and electromagnetic simulations, signal processing and ultrarealistic sound reproduction. Furthermore, we conduct education and research on mobile communication systems, regarding multipath radio propagation, adaptive signal processing using array antennas, visualization using millimeter and terahertz electromagnetic waves, and sound field analysis and synthesis.	Prof. Koji Kikushima *2	Advanced information communication system
		Associate Prof. Tatsuo Nozokido	Advanced superhigh frequency engineering
		Associate Prof. Masafumi Fujii	Advanced FDTD analysis
		Lecturer Kazuhiro Honda	Advanced radio wave propagation
Artificial intelligence	We conduct education and research on the design, analysis, and evaluation of various artificial intelligent methodologies, including the artificial neural networks which are inspired by the human brain's architecture and information processing mechanisms, the deep learning which is able to learn by itself, particle swarm optimization, ant colony optimization, error back-propagation method, genetic algorithm, evolutionary strategy, and other machine learning technologies	Prof. Zheng Tang	Advanced artificial intelligent systems
		Associate Prof. Shangce Gao	Advanced computational intelligence
Bio-information engineering	We conduct education and research which promote design and development of the non-invasive and unconstrained method of measuring biological information and the method of analyzing biological information for estimating a biological state.	Prof. Kazuki Nakajima	Advanced bio-instrumentation engineering
Intelligent systems	We conduct education and research on plasma simulations, robotics, intelligent control, intelligent algorithms, medical engineering system, and multi-robot systems.	Associate Prof. Hideki Toda	Biosignal measurement and processing for robot application
		Associate Prof. Takayuki Haruki	Advanced plasma physics
Mathematical analysis	In order to respond to the rapid development of state-of-the-art technologies such as computers and communication technologies, we actively conduct research on information mathematical science from a position to analyze the mathematical models and mathematical rules underlying them, and conduct education on representation theory, nonlinear analysis and stochastic process. We also aim to cultivate experts with the ability to analyze mathematical phenomena making full use of computers; such experts would be able to perform research and development that are necessary for running advanced information of the science and technology society.	Prof. Hiroyuki Yamane	Advanced representation theory
		Prof. Masato Kikuchi	Advanced stochastic process
		Prof. Keiichi Ueda	Advanced computational mathematics
		Associate Prof. Hideo Deguchi	Advanced mathematical phenomenal analysis

Solid mechanics	On the basis of mechanics such as studies on the strength of materials, computational mechanics, and experimental mechanics, we perform education and research on the strength of new materials, their combined materials, and functional materials. We also carry out mechanical evaluation of machine, components, and structures.	Prof. Katsuyuki Kida	Advanced solid Mechanics
		Associate Prof. Koshiro Mizobe	Advanced fracture mechanics
Material processing	We conduct education and research on processing systems that not only improve the level of processing technologies and processing quality but also respond to super precision and miniaturization by developing processing methods of new materials with multiple functions and unveiling their processing mechanisms.	Prof. Tomomi Shiratori	Advanced plasticity process
		Lecturer Noboru Takano	Advanced microfabrication
Function control engineering	The functions of high-speed, high-precision and complex systems range from non-bio to bio functions and have become subdivided. We conduct education and research to develop elements and systems for measurement. We also focus on control systems that can efficiently deal with high functionalization and multi-functionalization as well as establishment of the theories.	Prof. Mitsuru Jindai	Advanced control systems
		Prof. Tohru Sasaki	Advanced measurement system
		Prof. Kenji Hirata	Decentralized and cooperative control systems
		Prof. Yoshiyuki Matsumura	Advanced intelligent system
		Associate Prof. Kenji Terabayashi	Advanced image measurement systems
		Associate Prof. Toshiyuki Yasuda	Advanced swarm systems
		Lecturer Masahiro Sekimoto	Advanced robot dynamics and control theory
Strength and fracture of engineering materials	We conduct education and research on establishment of optimal and safe design methods for mechanical components and structures. We also focus on creation and application of new functional materials through understanding the strength and fracture mechanisms of engineering materials, establishment of database for material properties, and reliability analysis.	Prof. Noriyasu Oguma	Advanced mechanical engineering design for special environments
		Associate Prof. Koichi Kasaba	Strength and properties of advanced functional materials
		Associate Prof. Kenichi Masuda	Advanced nonlinear structural analysis

Mathematical structural science	We conduct education and research on the basic theory of mathematical science that supports the society depending on the complex and advanced science and technology, search for reliability in a comprehensive manner, and explore methods of mathematical analysis for mathematical phenomena. We also aim to cultivate specialists who excel in mathematical thinking and logic-composing by deepening their ability to analyze mathematical structures.	Prof. Keiko Fujita	Advanced complex analysis
		Prof. Yasuhiro Fujita	Advanced nonlinear mathematics
		Prof. Setsuo Nagai	Advanced differential geometry
		Prof. Takashi Koda	Advanced geometry
		Associate Prof. Tatsuya Kawabe	Advanced theory of geometric structures
		Associate Prof. Iwao Kimura	Advanced number theory

(2) Nano and Functional Material Sciences

When materials science and engineering are coupled with nano-science, the combination forms a cornerstone of modern science and technology. This major provides the education and research studies ranging from pure to applied science and concerns the characterization, design, and synthesis of various classes of materials and their subsequent development into new functional materials. Studies can range to include metals and alloys, organic and inorganic semiconductors, magnetic and dielectric substances, and bioactive natural products. The program of study is designed to cultivate creative scientists and engineers with the ability to develop new types of substances through innovative application of their learned knowledge. This includes an understanding of the material's properties and structure at various length scales down to the atomic level.

Educational field	Education and Research	Supervisors	Related lectures
Molecular mechanical engineering	We conduct education and research on molecular dynamics and quantum mechanics for new materials as well as on the evaluation of mechanical function and performance of molecular devices including electronic ones.	Prof. Takeshi Seta	Advanced Computational Thermo-Fluid Dynamics
		Lecturer Tatiana N. Zolotoukhina	Advanced nano dynamics
Synthetic organic chemistry	We conduct education and research on the design and synthesis of novel extended pi-conjugated systems, their application to supramolecular functional materials, the development of novel organic reactions, and their applications to the synthesis of biologically active natural compounds.	Prof. Naoto Hayashi	Advanced organic nano science
		Associate Prof. Masahiro Miyazawa	Advanced lectures on synthetic organic chemistry
		Lecturer Hajime Yokoyama	Synthetic natural products chemistry
Synthetic coordination chemistry	We conduct education and research on synthesis, structures, and physical and chemical properties of mono- to multi-nuclear coordination compounds with various properties including luminescence, redox activity, and response to external stimuli.	Prof. Kiyoshi Tsuge	Advanced synthetic coordination chemistry
		Associate Prof. Hideki Ohtsu	Advanced functional coordination chemistry
Synthetic inorganic chemistry	We conduct education and research on the preparation, characterization and physical properties of molecular solid state systems based on organic, inorganic and organometallic molecules which exhibit novel functions such as electrical conductivity and magnetism.	Associate Prof. Akira Miyazaki	Advanced properties of molecular solid state materials

Structural solution chemistry	Education and research are conducted on the structure and reactivity of metal ions, complexes, and nano-aggregates in solution under laser-induced and far-from-equilibrium conditions for medical, pharmaceutical, and photonic applications.	Associate Prof. Honoh Suzuki	Advanced structural solution chemistry
Molecular reaction engineering	We aim to solve energy and environmental problems for the foundation of a future society by making full use of knowledge about catalytic chemistry, chemical reaction engineering, and molecular dynamics. Our study focuses on advanced application of resources such as biomass and optics, as well as chemical reaction and chemical engineering processes that pose low environmental burdens. It also explores nano-materials with novel functions.	Prof. Noritatsu Tsubaki	Advanced catalysis engineering
		Associate Prof. Guohui Yang	Advanced energy and material chemistry
Environmental and analytical chemistry	Education and research are conducted on separation and preconcentration of trace elements using coprecipitation, solid-phase extraction, and liquid-liquid extraction techniques. They are also conducted on environmental and analytical application of the separation and preconcentration techniques.	Prof. Shigehiro Kagaya	Advanced separation science for trace element
Materials science for electronic devices	We conduct education and research on the nanodevices, MEMS (Micro Electro Mechanical Systems) and their integrated circuits, and the growth and characterization of semiconductor heteroepitaxial films. Crystal structure and dielectric properties of ferroelectric single crystals, ceramics, and thin film are also studied.	Prof. Koichi Maezawa	Advanced semiconductor device
		Associate Prof. Masayuki Mori	Advanced semiconductor thin film technology
		Associate Prof. Toshio Kikuta	Ferroelectric devices
Organic optoelectronic devices engineering	We conduct education and research in the evaluation of electro-optical properties of organic electronic materials, alignment control of organic molecules, nano-patterning technology, organic-based optical light quantum computing, and application of electro-optic devices using organic semiconductors.	Prof. Hiroyuki Okada	Advanced organic-based optical light quantum compuing
		Prof. Shigeki Naka	Advanced organic electronic device
Condensed matter physics	We conduct education and research to comprehensively understand the structures and properties of condensed matters in a systematic manner and from basic viewpoints. The structures and properties of nanoparticles and disordered system are studied. Magnetic, electrical, thermal and superconductive properties of strongly correlated electron systems at low temperatures are also studied.	Prof. Tomohiko Kuwai	Advanced condensed-mater physics
		Prof. Hiroyuki Ikemoto	Physics of disordered system
		Associate Prof. Takashi Tayama	Advanced low temperature physics
		Associate Prof. Keisuke Hatada	Theory and computation for synchrotron radiation spectroscopy

Particle design Process <Not Available>	We conduct education and research on particle design for creation of high-functional new materials accompanied by generation of fine powder and advanced technologies for development and design of their industrial manufacturing process.	Associate Prof. Taketoshi Kurooka	Advanced process analysis
Material design	We perform education and research on the relationship between electronic/atomic structure of materials and their mechanical/ physical properties. Emphasis is placed on the understanding deformation mechanism via advanced deformation method and the development of new functions via micro/nano-structure control, surface modification, or control of phase transformation/precipitation with metallic, ceramic, magnetic and superconducting materials. Electron microscopy, computational analysis and experimental techniques for physical transport properties will be introduced to proceed with the education and researches.	Prof. Katsuhiko Nishimura *1	Advanced applied magnetic materials
		Prof. Kenji Matsuda	Advanced nano material structural analysis
		Prof. Norio Nunomura	Advanced computational materials modeling
		Associate Prof. Takahiro Namiki	Transport properties of advanced materials
		Associate Prof. Seungwon Lee	Advanced strength of materials
Material chemistry	We conduct education and research mainly on the basic and applied study of various processes of material chemistry such as the smelting and purification of metallic materials and functional inorganic materials and on the fields of surface modification and surface function of inorganic materials.	Prof. Hideki Ono	Advanced refining engineering of materials
		Associate Prof. Masahiko Hatakeyama	Advanced chemical analysis
Material process	Various theories and technologies have been established in the creation and application processes of excellent new materials and functional materials, and in the molding of metals. Education and research are conducted on the industrial application of molecular functional materials.	Prof. Toshiya Shibayanagi	Interface science and engineering
		Prof. Atsushi Saiki	Advanced inorganic material function control
		Prof. Seiji Saikawa	Advanced material forming and engineering
		Prof. Tetsuo Aida	Advanced material manufacturing and plasticity theory
Photofunctional Material	Education and research are conducted into the design and synthesis of new photofunctional materials based on surface-modified nanomaterials that enable hybridization with organic or inorganic materials so that they can be used in the development of artificial photosynthesis systems and applications in the field of nanomedicine.	Prof. Yutaka Takaguchi	

(3) New Energy Science

While energy is indispensable for the survival of the human race, fossil fuel such as oil and coal is facing the greatest crisis of depletion. Therefore, the search for new sustainable energy resources and efficient use of energy is essential. In New Energy Science major, studies on the development and efficient use of energy such as electric energy, mechanical energy, heat energy, chemical energy and fusion energy are conducted. This includes the search for fundamental physics of the existence of substances, space-time and energy; analysis of molecular energy using highly sensitive precision laser spectroscopy and microwave spectroscopy; condensed molecular material chemistry such as high-functional catalytic chemistry, polymer chemistry, coordination chemistry, and dynamics of material exchange; hydrogen isotope science including tritium, basic science and material development for fusion; dynamics of terrestrial evolution and formation of underground resources.

Educational field	Education and Research	Supervisors	Related lectures
Electric energy system	On the basis of high efficient power conversion and high voltage/current technologies, we conduct education and research on linear motor and actuator, magnetic levitation, magnetic bearing, power electronics, renewable energy utilization , pulsed power, high power pulsed particle beam, atmospheric pressure and high density plasma, and observation and projection of lightning discharge.	Prof. Hiroaki Ito	High voltage and high current technology
		Prof. Takahisa Ohji	Advanced electromagnetic engineering
		Associate Prof. Kenji Amei	Advanced power conversion engineering
Thermofluid system	As basic and applied study of the physical properties of heat and fluid, as well as the conversion of such energy, we conduct education and research on heat generation, accumulation, transfer, conversion and technologies for the usage. Our specific topics are fluid transfer, diffusion and phase changes, the microstructure of turbulence and the combined phenomena of heat and fluid from the viewpoint of efficient energy usage, mechanisms of combustion phenomena, internal combustion engines, heat transfer and investigation for thermal properties	Prof. Atsumu Tezaki *	Advanced heat energy engineering
		Lecturer Daisuke Watanabe	Advanced applied fluid engineering
Transfer phenomenon system	We conduct education and research on transport phenomena of momentum, heat and mass occurring in industrial manufacturing processes such as polymer coating and alloy casting, aiming to develop mathematical models for simulation of unit operations constituting a process, methods for optimization of operating conditions, and technologies for saving energy and cost.	Associate Prof. Masamichi Yoshida	Theory of transport phenomena
Energy material basic science	We conduct wide-ranging education and research about what is a basic material, what kind of forces are working between the materials, how the Universe has been formed and developed and what mathematical expressions are appropriate for ultimate theories of material, time and space.	Prof. Takeshi Kurimoto	Advanced fundamental substance energy Advanced particle cosmology
		Associate Prof. Mitsuru Kakizaki	Advanced relativistic cosmology

Molecular energy basic science	We conduct education and research to identify molecular spectra and to derive precise molecular structures. These are important for physical chemistry, astronomy and environmental science by using laser and microwave spectroscopy. Techniques of trapping and cooling of atoms and molecules are also investigated and are applied to determine the precise frequencies and to verify the parameters of fundamental physics. We are also developing KAGRA, gravitational wave detector at Kamioka (Gifu prefecture), especially, technologies related with laser and mirror.	Prof. Yoshiki Moriwaki	Advanced quantum electronics
		Prof. Kaori Kobayashi	Advanced microwave molecular spectroscopy
		Associate Prof. Katsunari Enomoto	Advanced molecular spectroscopy
		Associate Prof. Kazuhiro Yamamoto	Advanced gravitational wave physics
Basic chemistry of light energy conversion	We conduct education and research on photo-function for conversion of light to chemical and electric energy using transition-metal complexes containing heavy metal ions. This is performed by elucidating their geometrical changes and reaction dynamics in photoexcited states and by constructing theoretical models for the photo-functional mechanism.	Prof. Koichi Nozaki	Advanced photophysical chemistry
		Lecturer Munetaka Iwamura	Advanced transition-metal photochemistry
Energy environment science	We conduct education and research on the physicochemical properties of hydrogen isotopes and the development of functional materials for safe and efficient utilization of hydrogen isotopes as fuels of fusion reactors and hydrogen energy systems. Our research topics are in an interdisciplinary field that covers materials science, physical chemistry, nuclear fusion engineering, and hydrogen energy engineering.	Prof. Takayuki Abe	Advanced hydrogen energy materials
		Prof. Yuji Hatano	Advanced fusion materials
		Visiting Prof. Mitsutaka Isobe	Safety and environmental research of nuclear fusion
		Visiting Associate Prof. Atsushi Ito	Fusion and plasma science and engineering
		Associate Prof. Masanori Hara	Advanced lecture for measurement and detection of radiation
		Associate Prof. Hidehisa Hagiwara	Energy conversion engineering
		Lecturer Akira Taguchi	Advanced catalytic transformation
		Assistant Prof. Satoshi Akamaru	Advanced inorganic functional materials
Geosphere material system science	We conduct education and research for unveiling the origins of underground resources and changes in the global environment during 4.6 billion years of the Earth history. The primary targets of our study are solid substances that record the Earth history such as minerals, rocks, and sedimentary strata. From the targets, we explore the material cycle, chemical reaction, heat history, and environmental changes of the Earth from its birth to the present on the basis of accurate age dating.	Prof. Kosei Komuro *2	Advanced resource science
		Prof. Shigeru Otoh	Advanced historical geology
		Prof. Yasuo Ishizaki	Advanced volcanology
		Prof. Shin-ichi Sano	Earth and life history
		Associate Prof. Kenji Kashiwagi	Advanced stratigraphy
		Associate Prof. Ken-ichi Yasue	Advanced neotectonics

(4) Earth, Life and Environmental Sciences

In this major, we focus our education and research on the schemes in the past, present and future of the Earth's environment that consists of hydrosphere, geosphere (atmosphere, lithosphere, etc.) and biosphere. Our education and research also include the interactions of each sphere, and cultivation of human resources that have interdisciplinary knowledge and thinking. In terms of life science, more specifically, we conduct education and research not only on the diversity of structure, behavior and evolution of organisms in the Earth's environment, but also on the mechanisms of regulation of gene expression. On the basis of the knowledge obtained from these studies, our research and education areas cover (1) genetic engineering aiming at industrial production of useful materials, (2) analysis of the relationship between biological functions and the internal and external environment, (3) conservation and restoration of the environment using chemical and biological methods, (4) changes in the crustal structure, (5) projection of natural disaster, and (6) disaster-prevention technologies. In addition, we also aim at promotion of research exchange between different fields.

Educational field	Education and Research	Supervisors	Related lectures
Regulatory biology	Education and research are conducted on adaptive significance of biological rhythms and sleep system, endocrine system, and behavioral system of an individual organism or population in changing external environments.	Prof. Takatoshi Mochizuki	Advanced sleep physiology
		Lecturer Norifumi Konno	Advanced endocrinology
		Lecturer Tomoya Nakamachi	Advanced behavioral physiology
Life information science	We conduct education and research on molecular mechanisms of cell differentiation and organ development in higher plants, structure, and expression of plant genome. The perception and transduction of environmental signals such as light and hormones are also studied.	Prof. Tatsuya Wakasugi	Organellar molecular biology
		Prof. Ichirou Karahara	Advanced plant developmental biology
		Lecturer Masayuki Yamamoto	Advanced plant molecular genetics
Living structure science	We analyze various processes in the biological developments, morphogenesis, structural features, phylogenetic relationships, diversity, behavioral ecology and evolution through comparative study in living structures. Thus, we conduct education and research to understand the fundamental principles and rules.	Associate Prof. Yuji Yamazaki	Advanced evolutionary ecology
		Associate Prof. Kiyoto Maekawa	Advanced evolutionary developmental biology
		Associate Prof. Tsutomu Tsuchida	Advanced biology of symbiosis
Disaster prevention science	Hokuriku area has been suffering from various natural disasters: heavy snow fall, winter thunderstorm, storm surge, earthquakes, etc. In order to mitigate the damage by such disasters, our research advances our understanding of the dynamics of the Earth's atmosphere, hydrosphere and lithosphere. This major is also committed to providing students with the opportunities to apply their research to problems in local communities.	Prof. Tohru Watanabe	Advanced physics of the Earth's interior
		Prof. Kazuaki Yasunaga	Advanced dynamic meteorology
		Prof. Kazuma Aoki	Atmospheric radiation
		Prof. Konosuke Sugiura	Advanced cryosphere science
		Prof. Bunmei Taguchi	Advanced ocean and climate dynamics
		Prof. Masahiro Hori	Advanced remote sensing
		Associate Prof. Wataru Shimada	Advanced snow and ice science
		Associate Prof. Atsushi Hamada	Advanced atmospheric physics

Earth systems science	We conduct geological and geophysical field investigations, computational analyses, and laboratory experiments of rocks and sediments, mainly with paleomagnetic and rock-magnetic methods, in order to clarify internal structures and their evolution in the solid Earth, and tectonic movements and environmental changes though geologic time in the Earth system. We aim to develop talented people who understand complex interaction among various components of the Earth system.	Prof. Akio Katsumata	Advanced seismology
		Prof. Naoto Ishikawa	Advanced paleomagnetism and rock magnetism
		Associate Prof. Kazuo Kawasaki	Resource and environmental geophysics
Environmental and analytical chemistry	Our group focuses on exploring techniques from chemical approaches in solving and clarifying environmental problems. For example, we are developing simple and rapid analytical methods to measure harmful components related to environmental pollution. The dynamics of these components are then studied, and based on these findings, we perform basic research to remove the pollutants from waste water. Furthermore, our research also includes geochemical monitoring of CO_2 which consists of water rock interaction in geothermal fields. We also clarify and evaluate material cycling systems and mechanisms and changes in oceanic and terrestrial water systems, using major ions, trace elements, and stable isotopes.	Prof. Jing Zhang	Advanced marine geochemistry
		Prof. Hideki Kuramitsu	Advanced water analysis
		Associate Prof. Keiji Horikawa	Isotope studies in environmental science
Biofunction	We carry out research on the activities of organisms, which are important elements of ecosystems, ranging from the molecular to population levels. In particular, we conduct education and research on the effects of environmental factors such as light, water, metallic ion and chemicals on the physiological functions of organism. Effects of global environmental changes and the interactions between individuals or species are also studied.	Prof. Naoya Wada	Advanced alpine ecology
		Prof. Yasushi Yokohata	Advanced animal ecology
		Prof. Daisuke Tanaka	Advanced microbiology
		Prof. Hiroshi Ishii	Advanced plant ecology
		Associate Prof. Hiroyuki Kamachi	Advanced plant physiology
		Lecturer Akihiro Sakatoku	Advanced environmental molecular biology

Supervisors with asterisk (*) are scheduled to retire in March 2022.

Supervisors with asterisk (*1) are scheduled to retire in March 2023.

Supervisors with asterisk (*2) are scheduled to retire in March 2024.

Enroll in April 2022
Outlines of Ph.D. Program of Graduate School of Science and Engineering, University of Toyama

The Ph.D. Program of the Graduate School of Science and Engineering is composed of four majors; Advanced Mathematics and Human Mechanisms, Nano and Functional Material Sciences, New Energy Science and Earth, Life and Environmental Sciences. The outlines of these majors are shown below.

(1) Advanced Mathematics and Human Mechanisms

In the midst of the rapid development of the advanced information society, further improvement should be made for all the people to live safely and comfortably without suffering from arising problems such as aging of population. In order to meet such social demands, we teach mathematics, electrical engineering, information engineering, and mechanical engineering and educate advanced research engineers who can play pivotal roles in their specialized fields including design of various mechanical equipment the computers for controlling the equipment, development of advanced information/communication systems, and computational science for promoting affluence and wealth of our lives through human engineering based on the system analysis of the biological mechanisms.

Educational field	Education and Research	Supervisors	Related lectures
Basic computer engineering	We conduct education and research on software development for practical use of computers, analysis and development of algorithms for useful software and advanced signal processing analysis in computer systems.	Prof. Shigeki Hirobayashi	Advanced signal processing
		Associate Prof. Tadanobu Misawa	Advanced machine learning
Computer applications engineering	We conduct education and research on QoE of multimedia applications/services, intellectual image processing for ITS, MaaS application for sharing mobility, energy management system using IoT devices, error control coding for reliable communications, smart sensing strategies usability engineering, network engineering in the era of ubiquitous-networks, and quantum information such as quantum cryptography and quantum repeaters.	Prof. Yuukou Horita	Advanced image communication
		Prof. Kiyoshi Tamaki	Advanced quantum information processing
		Lecturer Tatsuto Murayama	Advanced statistical science
Bio-medical informatics	We conduct education and research on visual information processing engineering, emotional information processing engineering, sensing and imaging technologies, signal and image processing, pattern recognition, color engineering, evaluation and analysis of CG/3-D visible images, optical and visual environment engineering, traffic visual environment engineering, urban landscape lighting, the hot issues of development of universal design for elderly persons and people with synesthesia, visual neurophysiology, neural computing, synaptic plasticity, bioinformatics. and development of hardware and software for image information processing inspired by intriguing human sensory information processing mechanisms.	Prof. Hideyuki Hasegawa	Advanced medical information sensing
		Prof. Takashi Katagiri	Advanced computational biophotonics
		Prof. Toshihide Tabata	Advanced biological information processing
		Associate Prof. Mamoru Takamatsu	Advanced emotional processing information engineering
		Associate Prof. Yusuke Oshima	Advanced clinical informatics engineering

Superhigh frequency and optical information transmission engineering	We conduct education and research on information communication and transmission with high-speed optical, wireless, wired and sound systems including system design, network analysis, optical and electromagnetic simulations, signal processing and ultrarealistic sound reproduction. Furthermore, we conduct education and research on mobile communication systems, regarding multipath radio propagation, adaptive signal processing using array antennas, visualization using millimeter and terahertz electromagnetic waves, and sound field analysis and synthesis.	Prof. Koji Kikushima *2	Advanced information communication system
		Associate Prof. Tatsuo Nozokido	Advanced superhigh frequency engineering
		Associate Prof. Masafumi Fujii	Advanced FDTD analysis
		Lecturer Kazuhiro Honda	Advanced radio wave propagation
Artificial intelligence	We conduct education and research on the design, analysis, and evaluation of various artificial intelligent methodologies, including the artificial neural networks which are inspired by the human brain's architecture and information processing mechanisms, the deep learning which is able to learn by itself, particle swarm optimization, ant colony optimization, error back-propagation method, genetic algorithm, evolutionary strategy, and other machine learning technologies	Prof. Zheng Tang	Advanced artificial intelligent systems
		Associate Prof. Shangce Gao	Advanced computational intelligence
Bio-information engineering	We conduct education and research which promote design and development of the non-invasive and unconstrained method of measuring biological information and the method of analyzing biological information for estimating a biological state.	Prof. Kazuki Nakajima	Advanced bio-instrumentation engineering
Intelligent systems	We conduct education and research on plasma simulations, robotics, intelligent control, intelligent algorithms, medical engineering system, and multi-robot systems.	Associate Prof. Hideki Toda	Biosignal measurement and processing for robot application
		Associate Prof. Takayuki Haruki	Advanced plasma physics
Mathematical analysis	In order to respond to the rapid development of state-of-the-art technologies such as computers and communication technologies, we actively conduct research on information mathematical science from a position to analyze the mathematical models and mathematical rules underlying them, and conduct education on representation theory, nonlinear analysis and stochastic process. We also aim to cultivate experts with the ability to analyze mathematical phenomena making full use of computers; such experts would be able to perform research and development that are necessary for running advanced information of the science and technology society.	Prof. Hiroyuki Yamane	Advanced representation theory
		Prof. Masato Kikuchi	Advanced stochastic process
		Prof. Keiichi Ueda	Advanced computational mathematics
		Associate Prof. Hideo Deguchi	Advanced mathematical phenomenal analysis

Solid mechanics	On the basis of mechanics such as studies on the strength of materials, computational mechanics, and experimental mechanics, we perform education and research on the strength of new materials, their combined materials, and functional materials. We also carry out mechanical evaluation of machine, components, and structures.	Prof. Katsuyuki Kida	Advanced solid Mechanics
		Associate Prof. Koshiro Mizobe	Advanced fracture mechanics
Material processing	We conduct education and research on processing systems that not only improve the level of processing technologies and processing quality but also respond to super precision and miniaturization by developing processing methods of new materials with multiple functions and unveiling their processing mechanisms.	Prof. Tomomi Shiratori	Advanced plasticity process
		Lecturer Noboru Takano	Advanced microfabrication
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		Prof. Tohru Sasaki	Advanced measurement system
		Prof. Kenji Hirata	Decentralized and cooperative control systems
		Prof. Yoshiyuki Matsumura	Advanced intelligent system
		Associate Prof. Kenji Terabayashi	Advanced image measurement systems
		Associate Prof. Toshiyuki Yasuda	Advanced swarm systems
		Lecturer Masahiro Sekimoto	Advanced robot dynamics and control theory
Strength and fracture of engineering materials	We conduct education and research on establishment of optimal and safe design methods for mechanical components and structures. We also focus on creation and application of new functional materials through understanding the strength and fracture mechanisms of engineering materials, establishment of database for material properties, and reliability analysis.	Prof. Noriyasu Oguma	Advanced mechanical engineering design for special environments
		Associate Prof. Koichi Kasaba	Strength and properties of advanced functional materials
		Associate Prof. Kenichi Masuda	Advanced nonlinear structural analysis

Mathematical structural science	We conduct education and research on the basic theory of mathematical science that supports the society depending on the complex and advanced science and technology, search for reliability in a comprehensive manner, and explore methods of mathematical analysis for mathematical phenomena. We also aim to cultivate specialists who excel in mathematical thinking and logic-composing by deepening their ability to analyze mathematical structures.	Prof. Keiko Fujita	Advanced complex analysis
		Prof. Yasuhiro Fujita	Advanced nonlinear mathematics
		Prof. Setsuo Nagai	Advanced differential geometry
		Prof. Takashi Koda	Advanced geometry
		Associate Prof. Tatsuya Kawabe	Advanced theory of geometric structures
		Associate Prof. Iwao Kimura	Advanced number theory

(2) Nano and Functional Material Sciences

When materials science and engineering are coupled with nano-science, the combination forms a cornerstone of modern science and technology. This major provides the education and research studies ranging from pure to applied science and concerns the characterization, design, and synthesis of various classes of materials and their subsequent development into new functional materials. Studies can range to include metals and alloys, organic and inorganic semiconductors, magnetic and dielectric substances, and bioactive natural products. The program of study is designed to cultivate creative scientists and engineers with the ability to develop new types of substances through innovative application of their learned knowledge. This includes an understanding of the material's properties and structure at various length scales down to the atomic level.

Educational field	Education and Research	Supervisors	Related lectures
Molecular mechanical engineering	We conduct education and research on molecular dynamics and quantum mechanics for new materials as well as on the evaluation of mechanical function and performance of molecular devices including electronic ones.	Prof. Takeshi Seta	Advanced Computational Thermo-Fluid Dynamics
		Lecturer Tatiana N. Zolotoukhina	Advanced nano dynamics
Synthetic organic chemistry	We conduct education and research on the design and synthesis of novel extended pi-conjugated systems, their application to supramolecular functional materials, the development of novel organic reactions, and their applications to the synthesis of biologically active natural compounds.	Prof. Naoto Hayashi	Advanced organic nano science
		Associate Prof. Masahiro Miyazawa	Advanced lectures on synthetic organic chemistry
		Lecturer Hajime Yokoyama	Synthetic natural products chemistry
Synthetic coordination chemistry	We conduct education and research on synthesis, structures, and physical and chemical properties of mono- to multi-nuclear coordination compounds with various properties including luminescence, redox activity, and response to external stimuli.	Prof. Kiyoshi Tsuge	Advanced synthetic coordination chemistry
		Associate Prof. Hideki Ohtsu	Advanced functional coordination chemistry
Synthetic inorganic chemistry	We conduct education and research on the preparation, characterization and physical properties of molecular solid state systems based on organic, inorganic and organometallic molecules which exhibit novel functions such as electrical conductivity and magnetism.	Associate Prof. Akira Miyazaki	Advanced properties of molecular solid state materials

Structural solution chemistry	Education and research are conducted on the structure and reactivity of metal ions, complexes, and nano-aggregates in solution under laser-induced and far-from-equilibrium conditions for medical, pharmaceutical, and photonic applications.	Associate Prof. Honoh Suzuki	Advanced structural solution chemistry
Molecular reaction engineering	We aim to solve energy and environmental problems for the foundation of a future society by making full use of knowledge about catalytic chemistry, chemical reaction engineering, and molecular dynamics. Our study focuses on advanced application of resources such as biomass and optics, as well as chemical reaction and chemical engineering processes that pose low environmental burdens. It also explores nano-materials with novel functions.	Prof. Noritatsu Tsubaki	Advanced catalysis engineering
		Associate Prof. Guohui Yang	Advanced energy and material chemistry
Environmental and analytical chemistry	Education and research are conducted on separation and preconcentration of trace elements using coprecipitation, solid-phase extraction, and liquid-liquid extraction techniques. They are also conducted on environmental and analytical application of the separation and preconcentration techniques.	Prof. Shigehiro Kagaya	Advanced separation science for trace element
Materials science for electronic devices	We conduct education and research on the nanodevices, MEMS (Micro Electro Mechanical Systems) and their integrated circuits, and the growth and characterization of semiconductor heteroepitaxial films. Crystal structure and dielectric properties of ferroelectric single crystals, ceramics, and thin film are also studied.	Prof. Koichi Maezawa	Advanced semiconductor device
		Associate Prof. Masayuki Mori	Advanced semiconductor thin film technology
		Associate Prof. Toshio Kikuta	Ferroelectric devices
Organic optoelectronic devices engineering	We conduct education and research in the evaluation of electro-optical properties of organic electronic materials, alignment control of organic molecules, nano-patterning technology, organic-based optical light quantum computing, and application of electro-optic devices using organic semiconductors.	Prof. Hiroyuki Okada	Advanced organic-based optical light quantum compuing
		Prof. Shigeki Naka	Advanced organic electronic device
Condensed matter physics	We conduct education and research to comprehensively understand the structures and properties of condensed matters in a systematic manner and from basic viewpoints. The structures and properties of nanoparticles and disordered system are studied. Magnetic, electrical, thermal and superconductive properties of strongly correlated electron systems at low temperatures are also studied.	Prof. Tomohiko Kuwai	Advanced condensed-mater physics
		Prof. Hiroyuki Ikemoto	Physics of disordered system
		Associate Prof. Takashi Tayama	Advanced low temperature physics
		Associate Prof. Keisuke Hatada	Theory and computation for synchrotron radiation spectroscopy

Particle design Process <Not Available>	We conduct education and research on particle design for creation of high-functional new materials accompanied by generation of fine powder and advanced technologies for development and design of their industrial manufacturing process.	Associate Prof. Taketoshi Kurooka	Advanced process analysis
Material design	We perform education and research on the relationship between electronic/atomic structure of materials and their mechanical/ physical properties. Emphasis is placed on the understanding deformation mechanism via advanced deformation method and the development of new functions via micro/nano-structure control, surface modification, or control of phase transformation/precipitation with metallic, ceramic, magnetic and superconducting materials. Electron microscopy, computational analysis and experimental techniques for physical transport properties will be introduced to proceed with the education and researches.	Prof. Katsuhiko Nishimura *1	Advanced applied magnetic materials
		Prof. Kenji Matsuda	Advanced nano material structural analysis
		Prof. Norio Nunomura	Advanced computational materials modeling
		Associate Prof. Takahiro Namiki	Transport properties of advanced materials
		Associate Prof. Seungwon Lee	Advanced strength of materials
Material chemistry	We conduct education and research mainly on the basic and applied study of various processes of material chemistry such as the smelting and purification of metallic materials and functional inorganic materials and on the fields of surface modification and surface function of inorganic materials.	Prof. Hideki Ono	Advanced refining engineering of materials
		Associate Prof. Masahiko Hatakeyama	Advanced chemical analysis
Material process	Various theories and technologies have been established in the creation and application processes of excellent new materials and functional materials, and in the molding of metals. Education and research are conducted on the industrial application of molecular functional materials.	Prof. Toshiya Shibayanagi	Interface science and engineering
		Prof. Atsushi Saiki	Advanced inorganic material function control
		Prof. Seiji Saikawa	Advanced material forming and engineering
		Prof. Tetsuo Aida	Advanced material manufacturing and plasticity theory
Photofunctional Material	Education and research are conducted into the design and synthesis of new photofunctional materials based on surface-modified nanomaterials that enable hybridization with organic or inorganic materials so that they can be used in the development of artificial photosynthesis systems and applications in the field of nanomedicine.	Prof. Yutaka Takaguchi	

(3) New Energy Science

While energy is indispensable for the survival of the human race, fossil fuel such as oil and coal is facing the greatest crisis of depletion. Therefore, the search for new sustainable energy resources and efficient use of energy is essential. In New Energy Science major, studies on the development and efficient use of energy such as electric energy, mechanical energy, heat energy, chemical energy and fusion energy are conducted. This includes the search for fundamental physics of the existence of substances, space-time and energy; analysis of molecular energy using highly sensitive precision laser spectroscopy and microwave spectroscopy; condensed molecular material chemistry such as high-functional catalytic chemistry, polymer chemistry, coordination chemistry, and dynamics of material exchange; hydrogen isotope science including tritium, basic science and material development for fusion; dynamics of terrestrial evolution and formation of underground resources.

Educational field	Education and Research	Supervisors	Related lectures
Electric energy system	On the basis of high efficient power conversion and high voltage/current technologies, we conduct education and research on linear motor and actuator, magnetic levitation, magnetic bearing, power electronics, renewable energy utilization , pulsed power, high power pulsed particle beam, atmospheric pressure and high density plasma, and observation and projection of lightning discharge.	Prof. Hiroaki Ito	High voltage and high current technology
		Prof. Takahisa Ohji	Advanced electromagnetic engineering
		Associate Prof. Kenji Amei	Advanced power conversion engineering
Thermofluid system	As basic and applied study of the physical properties of heat and fluid, as well as the conversion of such energy, we conduct education and research on heat generation, accumulation, transfer, conversion and technologies for the usage. Our specific topics are fluid transfer, diffusion and phase changes, the microstructure of turbulence and the combined phenomena of heat and fluid from the viewpoint of efficient energy usage, mechanisms of combustion phenomena, internal combustion engines, heat transfer and investigation for thermal properties	Lecturer Atsushi Kase	Advanced applied fluid mechanices
		Lecturer Daisuke Watanabe	Advanced applied fluid engineering
Transfer phenomenon system	We conduct education and research on transport phenomena of momentum, heat and mass occurring in industrial manufacturing processes such as polymer coating and alloy casting, aiming to develop mathematical models for simulation of unit operations constituting a process, methods for optimization of operating conditions, and technologies for saving energy and cost.	Associate Prof. Masamichi Yoshida	Theory of transport phenomena
Energy material basic science	We conduct wide-ranging education and research about what is a basic material, what kind of forces are working between the materials, how the Universe has been formed and developed and what mathematical expressions are appropriate for ultimate theories of material, time and space.	Prof. Takeshi Kurimoto	Advanced fundamental substance energy Advanced particle cosmology
		Associate Prof. Mitsuru Kakizaki	Advanced relativistic cosmology

Molecular energy basic science	We conduct education and research to identify molecular spectra and to derive precise molecular structures. These are important for physical chemistry, astronomy and environmental science by using laser and microwave spectroscopy. Techniques of trapping and cooling of atoms and molecules are also investigated and are applied to determine the precise frequencies and to verify the parameters of fundamental physics. We are also developing KAGRA, gravitational wave detector at Kamioka (Gifu prefecture), especially, technologies related with laser and mirror.	Prof. Yoshiki Moriwaki	Advanced quantum electronics
		Prof. Kaori Kobayashi	Advanced microwave molecular spectroscopy
		Associate Prof. Katsunari Enomoto	Advanced molecular spectroscopy
		Associate Prof. Kazuhiro Yamamoto	Advanced gravitational wave physics
Basic chemistry of light energy conversion	We conduct education and research on photo-function for conversion of light to chemical and electric energy using transition-metal complexes containing heavy metal ions. This is performed by elucidating their geometrical changes and reaction dynamics in photoexcited states and by constructing theoretical models for the photo-functional mechanism.	Prof. Koichi Nozaki	Advanced photophysical chemistry
		Lecturer Munetaka Iwamura	Advanced transition-metal photochemistry
Energy environment science	We conduct education and research on the physicochemical properties of hydrogen isotopes and the development of functional materials for safe and efficient utilization of hydrogen isotopes as fuels of fusion reactors and hydrogen energy systems. Our research topics are in an interdisciplinary field that covers materials science, physical chemistry, nuclear fusion engineering, and hydrogen energy engineering.	Prof. Takayuki Abe	Advanced hydrogen energy materials
		Prof. Yuji Hatano	Advanced fusion materials
		Visiting Prof. Mitsutaka Isobe	Safety and environmental research of nuclear fusion
		Visiting Associate Prof. Atsushi Ito	Fusion and plasma science and engineering
		Associate Prof. Masanori Hara	Advanced lecture for measurement and detection of radiation
		Associate Prof. Hidehisa Hagiwara	Energy conversion engineering
		Lecturer Akira Taguchi	Advanced catalytic transformation
		Assistant Prof. Satoshi Akamaru	Advanced inorganic functional materials
Geosphere material system science	We conduct education and research for unveiling the origins of underground resources and changes in the global environment during 4.6 billion years of the Earth history. The primary targets of our study are solid substances that record the Earth history such as minerals, rocks, and sedimentary strata. From the targets, we explore the material cycle, chemical reaction, heat history, and environmental changes of the Earth from its birth to the present on the basis of accurate age dating.	Prof. Kosei Komuro *2	Advanced resource science
		Prof. Shigeru Otoh	Advanced historical geology
		Prof. Yasuo Ishizaki	Advanced volcanology
		Prof. Shin-ichi Sano	Earth and life history
		Associate Prof. Kenji Kashiwagi	Advanced stratigraphy
		Associate Prof. Ken-ichi Yasue	Advanced neotectonics

(4) Earth, Life and Environmental Sciences

In this major, we focus our education and research on the schemes in the past, present and future of the Earth's environment that consists of hydrosphere, geosphere (atmosphere, lithosphere, etc.) and biosphere. Our education and research also include the interactions of each sphere, and cultivation of human resources that have interdisciplinary knowledge and thinking. In terms of life science, more specifically, we conduct education and research not only on the diversity of structure, behavior and evolution of organisms in the Earth's environment, but also on the mechanisms of regulation of gene expression. On the basis of the knowledge obtained from these studies, our research and education areas cover (1) genetic engineering aiming at industrial production of useful materials, (2) analysis of the relationship between biological functions and the internal and external environment, (3) conservation and restoration of the environment using chemical and biological methods, (4) changes in the crustal structure, (5) projection of natural disaster, and (6) disaster-prevention technologies. In addition, we also aim at promotion of research exchange between different fields.

Educational field	Education and Research	Supervisors	Related lectures
Regulatory biology	Education and research are conducted on adaptive significance of biological rhythms and sleep system, endocrine system, and behavioral system of an individual organism or population in changing external environments.	Prof. Takatoshi Mochizuki	Advanced sleep physiology
		Lecturer Norifumi Konno	Advanced endocrinology
		Lecturer Tomoya Nakamachi	Advanced behavioral physiology
Life information science	We conduct education and research on molecular mechanisms of cell differentiation and organ development in higher plants, structure, and expression of plant genome. The perception and transduction of environmental signals such as light and hormones are also studied.	Prof. Tatsuya Wakasugi	Organellar molecular biology
		Prof. Ichirou Karahara	Advanced plant developmental biology
		Lecturer Masayuki Yamamoto	Advanced plant molecular genetics
Living structure science	We analyze various processes in the biological developments, morphogenesis, structural features, phylogenetic relationships, diversity, behavioral ecology and evolution through comparative study in living structures. Thus, we conduct education and research to understand the fundamental principles and rules.	Associate Prof. Yuji Yamazaki	Advanced evolutionary ecology
		Associate Prof. Kiyoto Maekawa	Advanced evolutionary developmental biology
		Associate Prof. Tsutomu Tsuchida	Advanced biology of symbiosis
Disaster prevention science	Hokuriku area has been suffering from various natural disasters: heavy snow fall, winter thunderstorm, storm surge, earthquakes, etc. In order to mitigate the damage by such disasters, our research advances our understanding of the dynamics of the Earth's atmosphere, hydrosphere and lithosphere. This major is also committed to providing students with the opportunities to apply their research to problems in local communities.	Prof. Tohru Watanabe	Advanced physics of the Earth's interior
		Prof. Kazuaki Yasunaga	Advanced dynamic meteorology
		Prof. Kazuma Aoki	Atmospheric radiation
		Prof. Konosuke Sugiura	Advanced cryosphere science
		Prof. Bunmei Taguchi	Advanced ocean and climate dynamics
		Prof. Masahiro Hori	Advanced remote sensing
		Associate Prof. Wataru Shimada	Advanced snow and ice science
		Associate Prof. Atsushi Hamada	Advanced atmospheric physics

Earth systems science	We conduct geological and geophysical field investigations, computational analyses, and laboratory experiments of rocks and sediments, mainly with paleomagnetic and rock-magnetic methods, in order to clarify internal structures and their evolution in the solid Earth, and tectonic movements and environmental changes though geologic time in the Earth system. We aim to develop talented people who understand complex interaction among various components of the Earth system.	Prof. Akio Katsumata	Advanced seismology
		Prof. Naoto Ishikawa	Advanced paleomagnetism and rock magnetism
		Associate Prof. Kazuo Kawasaki	Resource and environmental geophysics
Environmental and analytical chemistry	Our group focuses on exploring techniques from chemical approaches in solving and clarifying environmental problems. For example, we are developing simple and rapid analytical methods to measure harmful components related to environmental pollution. The dynamics of these components are then studied, and based on these findings, we perform basic research to remove the pollutants from waste water. Furthermore, our research also includes geochemical monitoring of CO_2 which consists of water rock interaction in geothermal fields. We also clarify and evaluate material cycling systems and mechanisms and changes in oceanic and terrestrial water systems, using major ions, trace elements, and stable isotopes.	Prof. Jing Zhang	Advanced marine geochemistry
		Prof. Hideki Kuramitsu	Advanced water analysis
		Associate Prof. Keiji Horikawa	Isotope studies in environmental science
Biofunction	We carry out research on the activities of organisms, which are important elements of ecosystems, ranging from the molecular to population levels. In particular, we conduct education and research on the effects of environmental factors such as light, water, metallic ion and chemicals on the physiological functions of organism. Effects of global environmental changes and the interactions between individuals or species are also studied.	Prof. Naoya Wada	Advanced alpine ecology
		Prof. Yasushi Yokohata	Advanced animal ecology
		Prof. Daisuke Tanaka	Advanced microbiology
		Prof. Hiroshi Ishii	Advanced plant ecology
		Associate Prof. Hiroyuki Kamachi	Advanced plant physiology
		Lecturer Akihiro Sakatoku	Advanced environmental molecular biology

Supervisors with asterisk (^{*1}) are scheduled to retire in March 2023.

Supervisors with asterisk (^{*2}) are scheduled to retire in March 2024.

Instructions for filling out the application documents

1. Overall

(1) Use a black ballpoint pen. Write Chinese characters in standard style. Please leave the sections with *(asterisk marks) blank.

(2) Circle the appropriate item for multiple-choice questionnaires.

(3) Indicate numbers in Arabic numerals.

(4) The descriptions cannot be changed after submitting the application documents.

(5) If any fact that is different from the description in the submitted documents is found even after acceptance of admission, the admission of a successful applicant may be cancelled.

2. Application for admission, examinee ID card, photo ID card

(1) Period of enrollment

Please circle the corresponding period.

(2) Major/educational field of interest

Please enter the preferred major by referring to the "number of students for recruitment" for each major and the educational field by referring to the "Outlines of the Ph.D. Program for the University of Toyama Graduate School of Science and Engineering for Education" (p.10~33).

(3) Graduating school, etc.

Please enter the names of the department (school), faculty, major of graduating university/graduate school as well as the year of graduation (expected)/completion (expected) and circle the corresponding item (s).

(4) Contact address in Japan

Please enter the address and telephone number where the applicant can receive the documents for the admission exam in Japan without fail from the time of application to the time of determination of admission. If any change occurs after submitting the application, please notify the university of the change immediately.

(5) Examinee ID card/Photo ID card

Please circle the corresponding item (s).

3. C.V.

As for academic background, please enter the names of all the schools attended, including elementary school, in chronological order. As for university and graduate school, please enter the names of the graduate course and major.

If an applicant has a history of attendance as a research student at a university or other institutions, please enter the period of that attendance history.

As for professional background, please enter the names for the place of employment/organization, location and length of service.