#### Graduate School of Science, Tokyo Metropolitan University

#### Changes in the Application Guidelines for Academic Year 2021 Master's Program (October Enrollment)

Due to the influence of the novel coronavirus (COVID-19), the following changes will be made to the Summer entrance examination.

Department	Changes	BEFORE the change	AFTER the changes
Physics	Application document	Submit any one of the following external English test scores.  TOEIC Listening & Reading Test TOEFL (TOEFL-iBT) IELTS Academic Module	A score certificate will not be required for the Summer examination.
	Foreign language examination	Assessed based on the TOEIC, TOEFL, or IELTS score (Perfect score: 50)	Foreign language examination (English) will be excluded from the Summer examination.
Biological Sciences	Application document	Submit any one of the following external English test scores.  • TOEIC Listening & Reading Test  • TOEFL (TOEFL-iBT)  • IELTS Academic Module	Submit any one of the following external English test scores.  • TOEIC Listening & Reading Test  • TOEFL (TOEFL-iBT)  • IELTS Academic Module  Applicants who can't submit a test score may still apply. They will be treated as described in the below column.
	Foreign language examination	Assessed based on the TOEIC, TOEFL, or IELTS score (Perfect score: 200)	Applicants who can't submit a test score must take the foreign language written examination (English) (perfect score: 200 points).  Applicants who submit a test score shall also be eligible to take the written examination. In this case, they will be evaluated on the submitted test score or the written examination, whichever is better.
	Date	First examination (written examination) August 24 (Tue), 2021 9:30 am - 11:30 am [Biology]	First examination (written examination) August 24 (Tue), 2021 9:30 am - 11:30 am [Biology] 12:30 pm - 2:30 pm [English]

Information in this sheet is subject to change due to the influence of the novel coronavirus (COVID-19). Please confirm the latest information on the website of the Graduate School of Science regularly. (http://www.se.tmu.ac.jp/en/entrance exam.html)

For any inquiries as to the application, please contact below.

#### [Contact]

Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences,

Administrative Affairs Department of Tokyo Metropolitan University 1-1 Minami-Osawa, Hachioji-shi, Tokyo 192-0397

E-mail: rikou.r@jmj.tmu.ac.jp

# Tokyo Metropolitan University Graduate School of Science Application Guidelines for 2021 Master's Program <October Enrollment>

Examination: August 24 and 25, 2021

Administrative affairs concerning entrance examinations of the Graduate School of Science are handled by the following office:

Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences
Administrative Affairs Department of Tokyo Metropolitan University

1-1 Minami-Osawa, Hachioji-shi, Tokyo 192-0397 Tel: 042-677-1111 (representative) ext. 3021

http://www.se.tmu.ac.jp/

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(http://www.se.tmu.ac.jp/en/entrance exam.html)

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## Admissions Policies of the Graduate School of Science, Tokyo Metropolitan University

Graduate School of Science seeks individuals who acquire basic knowledge of and attitudes towards natural science and enthusiastically aim to become researchers/educators/engineers with creativity and applied skills. Such individuals who have the ability and motivation to deliver their research outcomes to the world are highly welcomed, especially in the Doctoral program.

#### Department of Mathematical Sciences

#### [Master's program]

#### 1. Policy

Mathematics have been provided the basis of natural science and played a fundamental role in its development, whose significance is more widely recognized in the present day. The department intends to undertake education and research in the 4 areas of mathematical sciences, including algebra, geometry, analysis (main fields of mathematics) plus applied mathematics, from an extended position not bound by the field framework.

#### 2. Ideal students

- (1) Individuals with a basic understanding and awareness of various issues in mathematical sciences
- (2) Individuals capable of acquiring knowledge from a global perspective and willingly taking on challenges in research tasks
- (3) Individuals who are motivated to attain various abilities to solve problems

#### 3. Ability required for students

- (1) Fundamental academic ability of mathematical sciences and spirit of inquiry for the desired field
- (2) Fundamental ability to discover and solve problems on their initiative in the field of their choice

#### [Doctoral program]

#### 1. Policy

Mathematics have been provided the basis of natural science and played a fundamental role in its development, whose significance is more widely recognized in the present day. The department intends to undertake education and research in the 4 areas of mathematical sciences, including algebra, geometry, and analysis (main fields of mathematics) plus applied mathematics, from an extended position not bound by the field framework.

#### 2. Ideal students

- (1) Individuals having deep and extensive specialized knowledge for their research in mathematical sciences
- (2) Individuals capable of carrying out ingenious and international research activities as an independent

researcher

(3) Individuals having the ability to evaluate the significance of their research and their positioning in society objectively

#### 3. Ability required for students

- (1) Specialized knowledge in the field of their choice and academic ability to carry out their research
- (2) Ability to discover and solve problems on their initiative in the field of their choice

#### Department of Physics

#### [Master's program]

#### 1. Policy

The Department aims to develop persons with basic knowledge and research skills in physics, which covers a wide range of phenomena in the natural world from elementary particles/nuclei and atomic molecules, substances with diverse structures, and the universe. It also aims to develop those who can drive leading-edge scientific research in the next generation with a keen awareness of the social responsibilities involved in their research and those who can solve various social and environmental problems based on science fundamentals.

#### 2. Ideal students

- (1) Individuals who are curious about acquiring basic knowledge in the expertise field, logical thinking skills, and practical research approaches
- (2) Individuals who are eager to acquire the necessary abilities to solve problems, conduct research, hold discussions, present research results, etc.
- (2) Individuals aiming to become researchers, professional engineers, or educators in physics

#### 3. Ability required for students

- (1) Specialized knowledge in the field of their choice and extensive knowledge of physics
- (2) Ability to discover and solve problems on their initiative in the field of their choice

#### [Doctoral program]

#### 1. Policy

The Department aims to develop persons with deep specialized knowledge and excellent research skills in physics, which covers a wide range of phenomena in the natural world from elementary particles/nuclei and atomic molecules, substances with diverse structures, and the universe. It also aims to develop those who can drive leading-edge scientific research in the next generation with a keen awareness of the social responsibilities involved in their research and those who can solve various social and environmental problems based on science fundamentals.

#### 2. Ideal students

- (1) Individuals who are curious about acquiring deep and extensive knowledge of basic and advanced physics
- (2) Individuals aiming to become independent researchers or educators capable of carrying out international and distinguished research activities, with a keen awareness of the social responsibilities involved in their research
- (3) Individuals who are eager to attain abilities to conduct research by formulating ingenious research plans, presenting the original treatises in international academic journals, participating in international research discussions, and reporting research results and their significances

#### 3. Ability required for students

- (1) Deep specialized knowledge in the field of their choice
- (2) Ability to contribute to academic development through the studies of physics
- (3) Excellent research skills capable of setting pioneering research tasks on their own and solving them in the field of their choice

#### Department of Chemistry

#### [Master's program]

#### 1. Policy

The Department aims to develop persons who understand the structure, nature, and the reaction of substances at the atomic and molecular levels, and acquire the basic knowledge of as well as fundamental research skills of chemistry, which pursues to create a new substance by carrying out the structural conversion of the molecule. It also aims to develop those who can drive leading-edge scientific research in the next generation with a keen awareness of the social responsibilities involved in their research and those who can solve various social and environmental problems based on science fundamentals.

#### 2. Ideal students

- (1) Individuals who are keen to work on research towards the elucidation of the structures, reactions, functions, and circulations of atom/molecule and its compound/assembly as well as the synthesis of a new substance
- (2) Individuals who wish to deepen their understanding of chemistry
- (3) Individuals who have a desire to improve research skills
- (4) Individuals who wish to develop global awareness through research to be able to perform internationally
- (5) Individuals who have a passion for working as a chemistry expert in the future

#### 3. Ability required for students

- (1) Broad range of knowledge of chemistry
- (2) Motivation for research towards the elucidation of the structures, reactions, functions, and circulations

of atom/molecule and its compound/assembly as well as the synthesis of a new substance, and the ability to pursue it

- (3) Ability to discover and solve problems on their initiative in the field of their choice
- (4) Ability of foreign language required to promote their research

#### [Doctoral program]

#### 1. Policy

The Department aims to develop persons who understand the structure, nature, and the reaction of substances at the atomic and molecular levels, and acquire the deep knowledge of as well as excellent research skills of chemistry, which pursues to create a new substance by carrying out the structural conversion of the molecule. It also aims to develop those who can drive leading-edge scientific research in the next generation with a keen awareness of the social responsibilities involved in their research and those who can solve various social and environmental problems based on science fundamentals.

#### 2. Ideal students

- (1) Individuals who show enthusiasm in contributing to deepening the human knowledge of chemistry
- (2) Individuals who are curious about acquiring deep and extensive knowledge of basic and advanced chemistry
- (3) Individuals aiming to become independent researchers or educators capable of carrying out international and distinguished research activities, with a keen awareness of the social responsibilities involved in their research
- (4) Individuals who are eager to attain abilities to conduct research by formulating ingenious research plans, presenting the original treatises in international academic journals, participating in international research discussions, and reporting research results and their significances
- (5) Individuals who wish to develop global awareness through research to be able to perform internationally
- (6) Individuals who have a passion for working as a highly specialized chemical expert in the future

#### 3. Ability required for students

- (1) Deep specialized knowledge in the field of their choice
- (2) Motivation for research towards the elucidation of the structures, reactions, functions, and circulations of atom/molecule and its compound/assembly as well as the synthesis of a new substance, and the ability to advance it
- (3) Ability of foreign language required to promote their research

#### Department of Biological Sciences

#### [Master's program]

#### 1. Policy

Department aims to develop students who attain basic skills to independently set and execute objectives,

methods, and problems towards the elucidation of fundamental mechanisms of biological growth and its higher-order structure, behavior, and ecology. It also aims to develop an integrated view of international perspective and communication skills to become researchers, educators, and developers capable of playing an active role domestically and internationally.

#### 2. Ideal students

- (1) Individuals who show a keen interest in biology and biological sciences and are eager to take the initiative in research and acquisition of specialized knowledge
- (2) Individuals who have a desire to attain research skills, planning ability, and performance capability through the study of biological science
- (3) Individuals who have a passion for contributing to society as researchers, educators, and developers equipped with international perspective and communication ability

#### 3. Ability required for students

- (1) Broad range of interests in biology and biological sciences, regardless of the university, faculty, or department they are from
- (2) Potential capacity to take the initiative in discovering and solving problems in biology, biological sciences, or another field

#### [Doctoral program]

#### 1. Policy

Department aims to develop students who attain basic and advanced skills to independently set and execute objectives, methods, and problems towards the elucidation of fundamental mechanisms of biological growth and its higher-order structure, behavior, and ecology. It also aims to develop an integrated view of both high international perspective and communication skills to become researchers, educators, and developers capable of playing an active and leading role domestically and internationally.

#### 2. Ideal students

- (1) Individuals who pursue ingenious and leading-edge research in the fields of biological sciences
- (2) Individuals who are curious about acquiring specialized knowledge of biological sciences and attain research skills, planning ability, and performance capability to be able to be active in the front lines
- (3) Individuals who have a passion for contributing to society as researchers, educators, and developers who can play an active and leading role in the expertise field internationally

#### 3. Ability required for students

- (1) A specialized knowledge in the field of their choice and a broad range of interests in biology and biological sciences, regardless of the university, faculty, or department they are from
- (2) Ability to take the initiative in discovering and solving problems in biology, biological sciences, or another field

### I Application Guidelines for 2021 Master's Program <October Enrollment>

Information in these Guidelines is subject to change due to the influence of the novel coronavirus (COVID-19). Please confirm the latest information on the website of the Graduate School of Science regularly. (http://www.se.tmu.ac.jp/en/index.html)

#### 1. Entrance Examination Schedule

First-stage examination (Written) August 24 (Tue), 2021
Second-stage examination (Oral) August 25 (Wed), 2021

#### 2. Number of Students to be Accepted

Name of department	Number of students to be accepted
Mathematical Sciences	A few
Physics	A few
Chemistry	A few
Biological Sciences	A few

#### 3. Qualification \*

- (1) Individuals who have graduated or are expected to graduate from a university by September 2021 (Note 1)
- (2) Individuals who have been granted or are expected to be granted a bachelor's degree by September 30, 2021, under Article 104 Paragraph 4 of the School Education Act of Japan (Note 2)
- (3) Individuals who have completed 16 years of school education in a foreign country (Note 3)
- (4) Individuals who have completed 16 years of school education at a foreign school through distant learning in Japan
- (5) Individuals who have received a degree equivalent to a bachelor's degree or are expected to receive one by September 30, 2021 from a foreign university or a foreign school (limited to one that has been evaluated by an organization accredited by the government or a related governmental organization of the said country for the overall performance of its education and research activities or designated separately as so by the Japanese Minister of Education, Culture, Sports, Science, and Technology) upon completion of a three-year or longer course of study (including completion of an educational course of a foreign school through distant learning in Japan or an educational course of a foreign school positioned as an educational institution under the educational system of the said country and designated separately by the Japanese Minister of Education, Culture, Sports, Science, and Technology)
- (6) Individuals who have completed a course of study at an educational institution located in Japan that is positioned as the one offering foreign university courses under the educational system of the said country

- (limited to those who are deemed to have completed 16 years of school education under the educational system of the said country) and designated separately by the Japanese Minister of Education, Culture, Sports, Science, and Technology
- (7) Individuals who have completed a specialized course at a vocational school designated by the Japanese Minister of Education, Culture, Sports, Science, and Technology (limited to the course with a duration of 4 years or more and satisfy the conditions set by the Minister) after the date set by the Minister
- (8) Individuals who are appointed by the Japanese Mister of Education, Culture, Sports, Science, and Technology (1953 Ministry of Education Notification No. 5) (Note 4)
- (9) Individuals who are recognized by the Graduate School as having academic ability equal to or superior to a university graduate based on the individual application qualification screening and who are 22 years of age or over (as of October 1, 2021)
- \* Those who are applying under the above (3) or (4) should submit the "Applicant's Inquiry Sheet under Qualification (3) or (4)."
- \* Those who are applying under the above (9) should undergo the application qualification screening. Please follow the rules stated on page 7 of these Guidelines.
- (Note 1) Universities as defined in Article 83 of the School Education Act of Japan
- (Note 2) Submission of a NIAD-UE certificate issued by the National Institution for Academic Degrees and University Evaluation is required during the admissions processing period.
- (Note 3) Including those who have completed a total of 16 years of programs in Japan and abroad combined.
- (Note 4) Graduates of National Defense Academy of Japan, National Fisheries University, Meteorological College, Polytechnic University, etc.

#### 4. Application Qualification Screening

Applicants who fall under the following must undergo the application qualification screening.

• Those who apply under the Qualification (9)

#### <Application period>

#### June 24 (Thurs) to July 1 (Thurs), 2021

Please submit the application documents during the period specified above.

The reception of the Academic Affairs Section of Science is available to receive the application documents on weekdays from 10:00 am - 12:00 pm and 2:00 pm - 4:00 pm only (excluding national holidays). If you send the documents by post, they must arrive no later than the last date of the application period mentioned above.

#### <Documents to be submitted>

- Confirmation of qualification (Designated form by the Graduate School)
- Certificate of (expected) graduation from the last educational institution
- Academic transcript of the last educational institution
- Statement of purpose (A4, 1 page)
- Confirmation of educational background

[Note for the applicants to the Department of Biological Sciences]

Please write down your career and research experiences after the last educational institution, if any. In addition, if there are any documents proving your engagement in research work, etc. (for example, a paper, a presentation summary for an academic conference, a certificate of research participation issued by a research institute, a certificate issued by a thesis adviser, etc.), attach them as well.

 A self-addressed stamped envelope (standard-size, with 374-yen postage stamps affixed <express delivery fee included>) (For notification of application approval/rejection purpose)

Note: Resubmission of both "certificate of (expected) graduation" and "academic transcript" from the last educational institution will not be required at the time of formal application.

#### <Designated form>

Please download the designated forms from the website of the Graduate School of Science (<a href="http://www.se.tmu.ac.jp/en/entrance\_exam.html">http://www.se.tmu.ac.jp/en/entrance\_exam.html</a>) or send a letter of request with a self-addressed return envelope (standard-size, with an 84-yen postage stamp affixed) to the Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University. Write down in red "Request for an application form for qualification screening to the Master's program (October enrollment)" on the front left side of the envelope.

#### <Place for submission>

Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University

(Please send by registered express mail and write down in red "Documents for qualification screening to the Master's program [October enrollment] enclosed" on the front left side of the envelope.)

#### <Notice of results>

Notification will be sent out on July 16 (Fri), 2021.

#### <Application procedure>

Individuals who are admitted to undergoing application may proceed with the formal application procedure following these Guidelines.

#### 5. Request for Written Examination in English

Applicants who wish to take the written examination in English must contact the Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University within the following period. We will respond to the request after consultation. A request form can be downloaded on the website of the Graduate School (<a href="http://www.se.tmu.ac.jp/en/entrance\_exam.html">http://www.se.tmu.ac.jp/en/entrance\_exam.html</a>). However, applicants to the Department of Biological Sciences are not required to contact because the exam questions are written in both Japanese and English.

#### <Request acceptance period>

#### June 17 (Thurs) to July 1 (Thurs), 2021

The reception of the Academic Affairs Section of Science is available to receive the form on weekdays from 10:00 am - 12:00 pm and 2:00 pm - 4:00 pm only (excluding national holidays). If you send the form by post, it must arrive no later than the last date of the request acceptance period mentioned above.

#### 6. Request for Special Consideration or Arrangement Related to Physical Disability

If you would like to request special consideration or arrangement related to physical disability at the time of examination or during school attendance, please notify us in advance. Please download the designated request form from the website of the Graduate School of Science (<a href="http://www.se.tmu.ac.jp/en/entrance\_exam.html">http://www.se.tmu.ac.jp/en/entrance\_exam.html</a>) or send a letter of request with a self-addressed return envelope (standard-size, with an 84-yen postage stamp affixed) to the Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University.

#### <Request acceptance period>

#### June 24 (Thurs) to July 1 (Thurs), 2021

The reception of the Academic Affairs Section of Science is available to receive the form on weekdays from 10:00 am - 12:00 pm and 2:00 pm - 4:00 pm only (excluding national holidays). If you send the form by post, it must arrive no later than the last date of the request acceptance period mentioned above.

#### <Document to be submitted>

Request for consultation regarding entrance examination to the Master's program (October enrollment) at the Graduate School of Science (Designated form by the Graduate School)

#### <Place for submission>

Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University

(Please send by registered express mail and write down in red "Request for consultation regarding entrance examination to the Master's program [October enrollment] enclosed" on the front left side of the envelope.)

#### 7. Request for Adult Working Student Enrollment

Programs suitable for adult working students are available to individuals who fall under any of the items listed in "3 Qualification" on pages 6 - 7 of these Guidelines and ever worked at the same company or research/educational institution for more than one year by the time of enrollment. The applicant must continue working for their current employer with being approved by their immediate manager after the enrollment in the Master's program. If you wish to enroll as an adult working student, notify us in advance in the way explained below. It is still possible to apply for the Master's program as a general student without using this system.

#### <Request acceptance period>

#### June 24 (Thurs) to July 1 (Thurs), 2021

The reception of the Academic Affairs Section of Science is available to receive the forms on weekdays from 10:00 am - 12:00 pm and 2:00 pm - 4:00 pm only (excluding national holidays). If you send the application documents by post, they must arrive no later than the last date of the above period.

#### <Documents to be submitted>

- Curriculum vitae (Designated form by the Graduate School)
- Certificate of approval for application (signed by applicant's immediate manager) (Designated form by the Graduate School)
- Research interest information sheet (Designated form by the Graduate School or a document created in accordance with it)
- Certificate of (expected) graduation from the last educational institution
- A self-addressed return envelope (standard-size, with 374-yen postage stamps affixed <express delivery fee included>) (For notification of application approval/rejection purpose)

Note: Resubmission of "Certificate of (expected) graduation from the last educational institution" will not be required at the time of formal application.

#### <Designated form>

Please download the designated form from the website of the Graduate School of Science (<a href="http://www.se.tmu.ac.jp/en/entrance\_exam.html">http://www.se.tmu.ac.jp/en/entrance\_exam.html</a>) or send a letter of request with a self-addressed return envelope (12 cm x 23.5 cm size, with an 84-yen postage stamp affixed) to the Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University. Please write down in red "Request for forms for consultation regarding adult working student to the Master's program (October enrollment)" on the front left side of the envelope.

#### <Place for submission>

Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University

(Please send by registered express mail and write down in red "Request for consultation regarding adult working student to the Master's program [October enrollment] enclosed" on the front left side of the envelope.)

#### <Notice of results>

Notification will be sent out on July 16 (Fri), 2021.

Note: Applicants who are deemed to require an interview will be notified separately.

#### <Application procedure>

Individuals who are admitted to undergoing application may proceed with the application procedures following these Guidelines.

#### <Partial exemption from written examination>

Applicants to the Department of Biological Sciences as a working adult student shall be exempted from the written biology examination when they have taken two or more department courses (4 credits or more) as a credited auditor and are approved as having a sufficient level of academic ability enough to obtain credits. (The Graduate School of Science adopts the Special Provision on Educational Method stipulated in Article 14 of the Standards for Establishment of Graduate Schools.)

#### 8. Applicants Residing Outside Japan

Applicants residing outside Japan require individual support for the application. Please inform the Academic Affairs Section of Science by e-mail (<u>rikou.r@jmj.tmu.ac.jp</u>) before the application period starts.

#### 9. Long-term Study System

Graduate School of Science has a system in which students may complete the program on a pre-planned basis during a fixed period exceeding the standard study duration (two years for the Master's program) under such circumstances of occupation, childbirth, childcare, nursing needs, etc. Under this system, students shall pay the same amount of tuition fees as regular students in installments over the period permitted for their long-term study.

#### < Qualification criteria>

Students who have difficulty completing their course within the standard study duration due to any of the following reasons:

- (1) Occupation as a full-time employee
- (2) Childbirth, childcare, or nursing needs
- (3) Other reasons approved as exceptional circumstances

#### <Application procedure>

Application Information and forms are available to download from the website of the Graduate School of Science (<a href="http://www.se.tmu.ac.jp/en/entrance\_exam.html">http://www.se.tmu.ac.jp/en/entrance\_exam.html</a>). Send the application forms together with other required application documents. For the details of this program, please confirm with the Application Information.

Notification of approval/rejection is scheduled to be sent out on September 3 (Fri), 2021.

## 10. Application Procedure

Applicants must submit the following documents by the prescribed date.

Application documentation	Remarks
(1)	Use the designated form by the Graduate School. (Reverse side must also be filled in.)
Application Form	· Enter the desired application field number corresponding to the fields of research
Exam Admission Card	listed on pages 21-24.
Photo Card	[Department of Physics]
Exam Desk Card	Write the desired field number in the first-choice column and at most 2 group
	numbers from A to D in the second-choice column, from the left in the order of
	preference
	[Department of Chemistry]
	Write the desired field number of the first choice in the first-choice column and
	at most four field numbers from the second to the fifth choices in the second-
	choice column, from the left in the order of preference.
	[Department of Biological Sciences]
	Write the desired field number in the first-choice column and the second and
	third choices in the second-choice column, from the left in the order of
	preference.
	For further details, read carefully "Precautions for Taking the Entrance
	Examinations" on page 25 and following.
	· Affix your photo (4 cm in height x 3 cm in width, upper-body, frontal and bare
	head, taken within the last three months of application) in the specified space.
(2)	Issued by the president/ dean of the university attended
Academic transcript	Note: Current TMU students don't need to submit the Academic transcript.
(3)	Issued by the president/ dean of the university attended
Certificate of	Note: Current TMU students don't need to submit the certificate of expected
(expected) graduation	graduation.
(4)	· 30,000 Japanese yen (Entrance examination fee)
Payment receipt (A part),	· The entrance examination fee will not be refunded for any reason once the
Payment certificate, or	application is processed.
Printout of the Results	[Payment using a Transfer request form (Payment slip)]
page	After paying the fee, confirm the bank receipt seal on the "Payment receipt (A part)"
	and paste it on the specified space in the "Certificate for a Fee Payment by Using
	Payment Slip or Online Payment System."
	[Online payment (e-shiharai net)]
	[Payment on the Japanese website]
	Paste the "Payment certificate" portion of the "Handling statement of entrance

	exam/screening fee" on the "Certificate for a Fee Payment by Using Payment Slip
	or Online Payment System" provided in these Guidelines.
	[ Payment on the English website]
	Submit a printout of the "Results page."
	Note: For the payment made at a convenience store or Pay-easy ATM in Japan,
	submit the <u>original</u> payment certificate. For the payment using an electronic payment
	method such as credit card, internet banking, Alipay, and UnionPay service, submit a
	printout of the payment certificate or the "Result page."
(5)	Write down your address, name, and postal code and affix 374-yen postage stamps
Return-mail envelope	(express delivery fee included) on a return envelope (12 cm x 23.5 cm size).
(6)	It will be used after passing the entrance examination when the university sends you
Return address label	the admission documents. Write your name and address clearly in block letters so that
sticker	the mail surely reaches you. If your address has been changed after making an
	application to the Graduate school, make sure to promptly report it to the Academic
	Affairs Section of Science and apply for the mail forwarding service at a post office.
(7)	
Applicant's inquiry sheet	
under the qualification	Required for those who apply under the Qualification (3) or (4)
(3) or (4)	
(8)	When any support is necessary regarding acquisition/renewal of the visa, fill out the
Student visa support	"Request for support regarding acquisition/renewal of student visa" and submit it
request form	together with the application documents.
	Please note that support will be provided only for visa acquisition/renewal at the time
	of enrollment, not at the time of entrance examination.
(9)	Government-financed international students (through Embassy recommendation or
Certificate of receipt of	Domestic selection) who are currently enrolled at another university but are wishing
the government-	to enter this University must submit the certificate of receipt of the government-
financed scholarship	financed scholarship.
	Note: For information on the scholarship period extension for a high-ranking
	academic program (including this Master's program), please confirm with the
	university currently attending.
(10)	
Questionnaire sheet for	Submission is required if you wish to apply for the scholarship.
the scholarship by the	Note: Some restrictions apply to those who have nationality other than Japanese.
Japan Student Services	(Applicants whose residence status in Japan is "study" are not qualified for this
Organization	application.)
(October enrollment)	

(11)	If you wish to have the long-term study system applicable upon enrollment, obtain the
Application form for	Application information and forms on the website of the Graduate School of Science
the long-term study	( <u>http://www.se.tmu.ac.jp/en/entrance_exam.html</u> ). Submit the completed forms
system	together with other required application documents.

Note: Due to the Novel Coronavirus (COVID-19) influence, the Departments of Physics and Chemistry will not conduct a written examination of the foreign language for this year only.

#### 11. Important Reminders

- (1) Incomplete application documents will not be accepted.
- (2) No documents submitted will be returned, nor will the entrance examination fee be refunded for any reason after the application has been processed.
- (3) Make sure to bring the Exam admission card on the day of the examination.
- (4) If any fraud or other act of dishonesty is found during the entrance examination or in the application procedure, enrollment will be rescinded even after admission has been granted.

#### 12. Handling of Personal Information

Please acknowledge beforehand that Tokyo Metropolitan University handles personal information strictly following laws and regulations as follows:

- (1) Personal information obtained through the admission selection, such as applicants' names and addresses, shall be used for screening (processing applications, conducting selections, and announcing successful applicants) and admission procedures. Additionally, personal information of enrolled students will be used for 1) academic affairs (school register, educational guidance, etc.), 2) student support service (healthcare, employment support, tuition fee reduction/exemption, scholarship application, etc.), and 3) clerical work for tuition collection.
- (2) Admission evaluation results gained through the admission selections will be used for future admission selection procedures.

#### **II** Payment of Entrance Examination Fee

#### (1) Payment Using Transfer Request Form (Payment slip)

- A) Pay the entrance examination fee (30,000 Japanese yen) by bank transfer (wire) using the transfer request form provided in these Guidelines.
  - The transfer cannot be made at a post office.
  - Enclosing the postal money order or cash in the Application form envelope is not acceptable.
  - The entrance examination fee cannot be paid through an ATM (automatic teller machine).
- B) Fill in the necessary information on the "Transfer request form for entrance examination fee" and submit it to a financial institution counter together with the entrance examination fee. The service charge should be shouldered by the remitter. No service charge is required for the payment made at the head or a branch office of Mizuho Bank
- C) After the transfer, paste the "Payment receipt (A part)" (invalid without the receipt seal of the financial institution) in the "Certificate for a Fee Payment by Using Payment Slip or Online Payment System" and submit it together with application documents.

#### (2) Online payment (e-shiharai.net)

Register for e-shiharai.net (<a href="https://e-shiharai.net/">https://e-shiharai.net/</a>) in advance and pay either at a convenience store, through Pay-easy ATM/Internet Banking, by credit card, through Alipay international settlement service or UnionPay service. (In the case of payment made outside Japan, credit card, Alipay international settlement service, and UnionPay service are acceptable).

For the payment method details, please refer to a separate sheet titled "How to Pay the Entrance Examination Fee to the Graduate School of Science of Tokyo Metropolitan University (Application from within and outside Japan)." The service charge should be shouldered by the remitter.

#### [Payment made on the Japanese website]

After the payment, detach the "Payment certificate" portion of the "Handling statement of entrance exam/screening fee," paste it on the "Certificate for a Fee Payment by Using Payment Slip or Online Payment System," and submit it together with the application documents.

#### [Payment made on English website]

After the payment, submit a printout of the "Results page" together with the application documents.

<Payment period>

#### July 5 (Mon) to August 2 (Mon), 2021

Note: For questions concerning the e-shiharai.net procedure, please refer to "FAQ (frequently asked questions)" on the website and then contact the e-Service Support Center.

- ◆ Applicants affected by any of the following natural disasters will be exempted from paying the entrance examination fee. Please consult with the Academic Affairs Section of Science, Administrative and Student Affairs Division of Sciences before paying the entrance examination fee.
  - · The Great East Japan Earthquake occurred in March 2011,
  - · A series of earthquakes occurred in the Kumamoto region in April 2016
  - · A series of torrential rains occurred in the northern part of Kyushu in July 2017
  - · A series of torrential rains occurred in the Western region of Japan after June 2018
  - · Hokkaido Eastern Iburi earthquake occurred in September 2018
  - · Heavy rain from the storm front in August 2019
  - · Typhoon No. 15 in 2019
  - The power outage caused by Typhoon No. 15 in 2019
  - · Typhoon No. 19 in 2019
  - · Heavy rain in July 2020

## III Application procedure

#### 1. Application Period

July 26 (Mon) to August 2 (Mon), 2021 (Documents must arrive by.)

- The application will be accepted only by post. The application directly delivered in person will not be accepted.
- Send the application in the non-standard-size envelope (24 cm x 33.2 cm, A4-size) to the Academic Affairs Section of Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University by registered express mail. Be sure to write down in red "Application documents to the Master's program (October enrollment) enclosed" on the front left side of the envelope.
- · Send the application well in advance, considering the days to be delivered.
- Be sure to contact the Academic Affairs Section of Science if you do not receive your Exam admission card by August 13 (Fri), 2021.

#### 2. Entrance Examination Fee

30,000 Japanese yen

- As for the payment method, please see the previous page.
- The entrance examination fee will not be refunded for any reason once the application is processed.

Note: A refund can be made only when an applicant paid the entrance examination fee but didn't send the application documents or paid the fee twice by mistake. For details, please see the following University's website. <a href="http://www.tmu.ac.jp/campus\_life/tuition/expenses.html">http://www.tmu.ac.jp/campus\_life/tuition/expenses.html</a> (Japanese site)

3. Screening Method for Applicants

Screening of applicants is conducted based on the results of written and oral examinations and the academic

transcript of the last educational institution in a comprehensive manner.

(1) Examination subjects and screening date and time: See the next page.

(2) Examination venue:

Buildings No. 8 and 11, Minami-Osawa Campus, Tokyo Metropolitan University

(Details will be posted in front of the Science Office in Building No. 8 and in front of Building No. 11 on

the examination day.)

(3) Announcement of results of the first examination: See Important Reminders on the next page.

4. Announcement of Results

Date & time: So

September 3 (Fri), 2021 at 2:00 pm

Place:

In front of the Science Office, Academic and Student Affairs Division of Sciences,

Administrative Affairs Department of Tokyo Metropolitan University (Building No. 8)

Exam admission card numbers of the successful applicants will also be posted on the website of the Graduate

School of Science (<a href="http://www.se.tmu.ac.jp/">http://www.se.tmu.ac.jp/</a>) for reference purposes. Therefore, make sure to confirm the results

by checking the announcement posted in front of the Science Office. Please note that telephone inquiries are not

accepted.

(1) A Letter of acceptance will be issued to the successful applicants at the Academic Affairs Section of Science,

Academic and Student Affairs Division of Sciences in exchange for the Exam admission card on the dates

below.

**September 3 (Fri), 2021** from 2:00 pm - 5:00 pm

**September 6 (Mon), 2021** from 10:00 am - 12:00 pm and 2:00 am - 5:00 pm

(2) If you wish to have the final results sent to you by post, please submit, after the oral examination, your

Exam admission card and an A4 size self-addressed return-mail envelope (24 cm x 33.2 cm, with your exam

admission card number written and 750-yen postage stamps affixed) to the Academic Affairs Section of

Science, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo

Metropolitan University.

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Summer examination: Examination subjects, examination date and time, etc.

	Written examination		Date and time	me
Department	Specialized subject	Foreign language	First examination (written examination)	Second examination (oral examination)
Mathematical Sciences	Math (perfect score: 300)	English (perfect score: 60)	August 24 (Tue) 9:30 am - 11:30 am Math I 1:00 pm - 2:30 pm Math II 2:50 pm - 3:40 pm English	August 25 (Wed) 10:00 am – 5:00 pm
Physics	Physics, Math (perfect score: 250)	No written examination to be conducted for this year only	August 24 (Tue) 9:30 am - 11:45 am Math Physics I 1:00 pm - 2:40 pm Physics II [Adult working applicants are exempted from "Math and Physics I" examinations.	August 25 (Wed) 1:00 pm - 7:00 pm
Chemistry	Chemistry (perfect score: 300)	No written examination to be conducted for this year only	August 24 (Tue) 9:30 am-11:10 am Chemistry I 11:30 am-12:50 pm Chemistry II	August 25 (Wed) 1:00 pm - 5:00 pm
Biological Sciences	Biology (perfect score: 200)	Assessed based on TOEIC, TOEFL, or IELTS score (perfect score:200)	August 24 (Tue) 9:30 am - 11:30 am Biology	August 25 (Wed) 10:00 am - 5:00 pm

#### [Important reminders]

- (1) Applicants found to have committed fraud shall be banned from taking the examination.
- (2) No dictionaries are allowed for the "foreign language" examination of the Department of Mathematical Sciences.
- (3) Successful applicants of the first examination are qualified to take the second examination. The results of the first examination will be announced as indicated below.

#### [Venue]

In front of the Science Office, Academic and Student Affairs Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University (Building no. 8)

[Date and time]

Departments of Mathematical Sciences and Biological Sciences: August 25 (Wed) at 9:30 am

Departments of Physics and Chemistry: August 25 (Wed) at 12:00 pm

- (4) Applicants to the <u>Department of Mathematical Sciences</u> must read important reminders in "Precautions for taking the entrance examinations" (page 26).
- (5) Applicants to the <u>Department of Physics</u> must read important reminders in "Precautions for taking the entrance examinations" (page 27).
- (6) Applicants to the <u>Department of Chemistry</u> must read important reminders in "Precautions for taking the entrance examinations" (page 28).
- (7) Applicants to the <u>Department of Biological Sciences</u> must read important reminders in "Precautions for taking the entrance examinations" (pages 29-30).

#### IV Admission Procedure, Admission Fees, Tuition Fees, and Others

#### 1. Admission Procedure

Successful applicants are requested to complete the admission procedure by **September 10** (Fri), 2021. The detail will be notified after the announcement of successful applicants.

#### 2. Admission Fee

Residents of Tokyo: 141,000 Japanese yen (tentative amount)
Others: 282,000 Japanese yen (tentative amount)

#### Notes:

- The admission fee must be paid at the time of submission of the admission documents.
- If the admission fee is revised, the new price shall apply.
- A "resident of Tokyo" refers to the one whom he/she, or his/her spouse or a first-degree relative has lived in Tokyo continuously for one year or longer (from October 1, 2020) before the day of enrollment (October 1, 2021). The decision for granting certification of "resident of Tokyo" will be made based on the "Certificate of Items Stated in Resident Register" if the applicant him/herself lives in Tokyo, or in other cases the "Certificate of Items Stated in Resident Register" and "Extract of Family Register" of his/her relative living in Tokyo.

#### 3. Tuition Fee

Annual amount: 520,800 Japanese yen (tentative amount)

#### Notes:

- The tuition fee should be paid by account transfer. Half of the annual amount (260,400 Japanese yen) is charged from the bank account in late October and in late April.
- If the tuition fee is revised during the Academic Year 2021, the new price shall apply.
- The tuition fee waiver is available.

#### 4. Scholarships

- Scholarship by the Japan Students Services Organization (JASSO)
   Scholarship loan is available after enrollment to those whose application is successfully accepted by JASSO.
- (2) Benefit type of scholarships

The following scholarship programs are available to those enrolled in the Doctoral program of Tokyo Metropolitan University. (Please note that the scholarship will not be provided to all applicants due to budgetary limits.)

[Research Encouragement Scholarship for Doctoral Program Students]

This is a benefit type of scholarship to outstanding students enrolled in the Doctoral program, aiming to

encourage their research by offering an environment where they can devote themselves to their research

activities.

<Amount to be provided> 1,800,000 Yen/year (150,000 Yen/month)

<Benefit period> Up to 3 years after enrollment in Doctoral program

<Eligible students>

Students who:

· are accepted to or wish to enter the Doctoral program of the Graduate school, and

· applied for Research Fellowship for Young Scientists DC1 to JSPS and were not selected.

<How to apply>

Contact the Academic Affairs Section of Science by the end of December 2021. Program details are

available on the website of the Student Affairs Division.

[Scholarship in Support of Graduate Students]

This is a benefit type of scholarship to be provided to outstanding students enrolled in the Doctoral program,

aiming to give them financial support and, at the same time, to produce competent personnel. This

scholarship can be received up to three times per student.

<Amount to be provided> 260,000 Yen/year (lump-sum distribution)

<Eligible students>

Students enrolled in the Doctoral program who have achieved outstanding academic and research

results

<How to apply>

The application is not required. (Graduate school will select the candidates after an examination.) Please

contact the Academic Affairs Section of Science for details.

For further details, please contact the Academic Affairs Section of Science, Academic and Student Affairs

Division of Sciences, Administrative Affairs Department of Tokyo Metropolitan University.

Tel: 042-677-1111 Ext.3022

Email: rikou.r@jmj.tmu.ac.jp

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# **VII Precautions for Taking the Entrance Examinations**

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## **Important Reminders for Applicants to the Department of Mathematical Sciences**

Department of Mathematical Sciences

#### 1. Mathematics I

Answer 4 questions in total, including 2 questions from differential/integral and 2 from linear algebra (matrix, linear mapping, and vector space).

#### 2. Mathematics II (Only for summer examination)

9 basic questions from the following scope. Choose 2 questions to answer.

Scope of questions:

- · Field of algebra (standard form of linear transformation, metric vector space, basics of group theory & ring theory)
- · Field of geometry (general topology, differential geometry of curved surface/line)
- · Field of analysis (vector analysis, differential equations theory, complex functions theory)
- · Field of applied mathematics (discrete mathematics, algorism)

#### 3. English language

- 2 English questions on mathematics: one English-Japanese translation and one English composition (Japanese-English translation) questions. Answer those 2 questions.
- 4. Previous examination questions (Mathematics I, Mathematics II) are available on the Department's website (URL: http://www.se.tmu.ac.jp/mis/).
- 5. A questionnaire survey is conducted, which is used as reference material for the second-stage examination (oral examination). As the questionnaire sheet is enclosed with the exam admission card, please fill out the sheet and bring it with you on the day of the oral examination. It will be collected at the examination venue.
- 6. Please enter the application field number and name of the faculty member in the "application field number" column.

\*Application field number First choice Second choice (Entry example) (1) Hiroo (2) Yoyogi

# **Important Reminders for Applicants to the Department of Physics**

Department of Physics

1. Subjects on the examination

Physics I: Mechanics, Electromagnetics

Physics II: Quantum mechanics, Thermal and statistical mechanics

2. Selection procedures

• First examination

Examinees receiving high scores in the written examination are selected from each of groups A to D.

Second examination

An oral examination is conducted for each of groups A to D, and applicants are assessed comprehensively based on the results of the first and second examinations. Those who receive scores above the passing score are accepted.

Enter the application fields in the "application field number" column of the Application Form as follows:

• First choice: Write down one field number from (1) to (16).

• Second choice Choose at most two from group codes A to D and write them down from the

<u>left</u> in the order of preference.

(Note)

Even when the second choice field group is the same as that of the first choice field, you must still enter group code A to D in the "second choice application field" column.

- 3. In the case that the thesis advisor in the field you are applying is due to retire during your enrollment in the Master's Program, a replacement advisor or any other advisor in the group will take over and be in charge of supervising your research.
- 4. Important information on the entrance examination for the Department of Physics is available on the following websites. Make sure to check the latest information.
  - Entrance examination in general http://www.phys.se.tmu.ac.jp/outside/daigakuin/
  - Previous examination questions
     http://www.phys.se.tmu.ac.jp/outside/daigakuin/kakomon/

# **Important Reminders for Applicants to the Department of Chemistry**

Department of Chemistry

- 1. Each laboratory has its own quota. Therefore, even if an applicant satisfies the eligibility criteria, he/she may not be admitted to the laboratory of his/her choice. Please contact the thesis advisor of the laboratory of choice for the quota and the number of applicants.
- 2. In the "application field number" column of the Application Form, enter the field number of your first choice in the "first choice" column. Then, in the "second choice" column, enter the field numbers of the second choice to the fifth choice in the order of preference. Failure to do so would mean rejection of application or failure to be assigned to a laboratory of your second or lower choice.

(Entry example)

\*Application field number

Second choice

5, 12, 6, 4

3. Questions in chemistry are related to four fields: organic chemistry, biochemistry, inorganic/analytical chemistry, and physical chemistry. How to choose questions is explained on the front page of the question leaflet distributed on the day of the examination.

Previous chemistry examination questions are available on the Department's website.

http://www.se.tmu.ac.jp/chem/

# **Important Reminders for Applicants to the Department of Biological Sciences**

Department of Biological Sciences

1. In the "application field number" column of the Application Form, enter the field number of your first choice in the "first-choice" column. Then, in the "second-choice" column, enter the field numbers of your second and third choices in the order of preference.

(Entry example) \*Application field number

First choice Second choice

1 15, 2

- 2. As each field has a quota, you may not be admitted to the field of your choice even if you have successfully passed the entrance examination. When you satisfy an acceptability criterion but the quota for your first and second choices fields has been filled by other applicants with far more superior results, you will be accepted under the status of "Field Undecided." Taking the above into consideration, carefully decide the fields of your first and second choices. It is recommended that you contact the teachers in your first and second choices fields and make yourself informed of the research contents, laboratory members, etc., before making an application.
- 3. The field of the "Field Undecided" successful applicants shall be decided based on the consultations after enrollment. However, they may be assigned to the field of their initial choice if there is any admission cancellation.
- 4. When you are admitted to the field of your second or third choice, you may become a "Field Undecided" successful applicant by waving the right to your admitted field after admission registration is completed.
- 5. Detailed information on the field availability, waiver application, and field determination of the "Field Undecided" successful applicants shall be given after admission registration is completed.
- 6. When you wish to be admitted to a research field of a Visiting professor/associate professor from any of the partner institutions, enter both the field number and teacher's name in the "application field number" column of the Application Form.

(Entry example) \*Application field number

First choice Second choice

(1) Miura 15, 1

7. Past entrance examination questions can be requested on the Department's website. <a href="https://www.biol.se.tmu.ac.jp/exam/en/">https://www.biol.se.tmu.ac.jp/exam/en/</a>

- 8. Assessment of foreign language proficiency
  - "Foreign language proficiency" is assessed based on the TOEFL (TOEFL-iBT), TOEIC Listening & Reading Test, or IELTS (Academic Module) test score. Please refer to "10. Application Procedure" in these Application guidelines.
  - Each score is converted into a scale of zero to 200 points for assessment.

TOEFL: TOEFL score/80 x 200, where the score of 80 points or more is taken as 200 points.

TOEIC: TOEIC score/800 x 200, where the score of 800 points or more is taken as 200 points.

IELTS: The score is converted according to the table below. A score of 6.0 or more is taken as 200 points.

IELTS	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Points	50	60	70	80	100	110	125	150	180	200

# V Introduction of Thesis Advisors, Visiting Professors from Partner Institutions, and Study Fields of the Graduate School of Science

- (1) Professors whose names are marked with "\*" are scheduled to retire in March 2023 and those marked with "\*" in March 2024.
- (2) Numbers (1), (2), ...on the rightmost column should correspond to the field number written down in the "application field" of the Application Form.
  - In the case of applicants of the Department of Physics, however, enter only the field number in the first choice column under "application field" of the Application Form and enter only group numbers A to D in the second choice column. (For details, refer to "Important Reminders for Applicants of the Department of Physics.)
  - Further, in the case of applicants of the Department of Chemistry, enter at most 4 field numbers from the second choice to the fifth one in the second choice column under "application field" of the Application Form, from the left in the order of preference. (For details, refer to "Important Reminders for Applicants of the Department of Chemistry.)
- (3) The Graduate School of Science and engineering has concluded an agreement on a joint graduate school program with research institutes operated by the Tokyo Metropolitan Government, the Institute of Physical and Chemical Research ("RIKEN," a national research and development agency), the National Institute of Advanced Industrial Science and Technology ("AIST," a national research and development agency), and Japan Aerospace Exploration Agency ("JAXA," also a national research and development agency), based on which students can receive research guidance from visiting professors from the partner institutes. The names, study fields, and study descriptions of visiting professors are mentioned separately after the list of this University's faculty members in each Department. For details, please contact a university faculty member who has the same field number as the visiting professor from a partner institute.

As of Oct, 2021 (Scheduled)

#### ◆ Mathematical Sciences

Research Field	Thesi	is Advisor	Research Subject	Field Number
Analysis	Professor	KURATA Kazuhiro	Partial Differential Equations, Nonlinear Variational Problems	1
Algebra	Professor	KURODA Shigeru	Affine Algebraic Geometry, Polynomial Ring Theory	2
Geometry	Associate Professor	HISAMOTO Tomoyuki	Geometric Complex Analysis	3
Analysis	Associate Professor	SHIMOJO Masahiko	Reaction Diffusion Equations, Dynamical Systems	4
Analysis	Professor	YOSHITOMI Kazushi	Partial Differential Equations, Pseudo-Differential operators	5
Geometry	Associate Professor	TAKATSU Asuka	Differential Geometry, Geometric Analysis	6
Geometry	Associate Professor	FUKAYA Tomohiro	Geometric Group Theory, Coarse Geometry	7
Analysis, Applied Mathematics	Professor	TAKAKUWA Shoichiro *	Global Analysis, Partial Differential Equations	8
Algebra	Professor	TSUMURA Hirofumi	Number Theory	9
Algebra, Geometry	Professor	TOKUNAGA Hiro-o	Algebraic geometry, Topology of algebraic curves and surfaces, The Arithmetic of Branched Covers	10
Geometry	Professor	YOKOTA Yoshiyuki	Knot, 3-Manifold, Quantum Invariant	11
Geometry	Associate Professor	AKAHO Manabu	Symplectic Geometry, Floer Theory, Morse Theory	12
Algebra, Geometry	Associate Professor	UEHARA Hokuto	Algebraic Geometry, Classification Theory of Higher Dimensional Varieties, Derived Categories of Coherent Sheaves	13
Algebra, Geometry, Applied Mathematics	Associate Professor	KOBAYASHI Masanori	Algebraic Geometry, Mirror Symmetry, Related Mathematical Sciences	14
Geometry	Professor	SAKAI Takashi	Differential Geometry, Submanifold Theory	15
Applied Mathematics, Algebra	Professor	UCHIYAMA Shigenori	Cryptography, Algorithmic Number Theory	16
Applied Mathematics, Algebra	Associate Professor	YOKOYAMA Shun-ichi	Symbolic Computation, Computational Number Theory, Cryptography	17
Applied Mathematics, Analysis	Associate Professor	ISHITANI Kensuke	Probability Theory, Mathematical Finance	18
Applied Mathematics, Algebra	Associate Professor	UCHIDA Yukihiro	Algorithmic Number Theory, Arithmetic Geometry, Cryptography	19
Applied Mathematics	Associate Professor	SUZUKI Toshio	Theory of Computing, Mathematical Logic	20
Applied Mathematics	Associate Professor	MURAKAMI Hiroshi	Computer Algebra (Algorithm), Numerical Analysis (Algorithm), Parallel Computation (Algorithm)	21

#### lacktriangle Physics

Research Field	Thesis Adviser		Research Subject	Field Number	Group
Particle Theory	Professor	YASUDA Osamu	Physics beyond the Standard Model, Neutrino Physics	1	
High-Energy Theoretical Physics	Associate Professor	KETOV Serguei	Quantum Field Theory, Theoretical High Energy Physics, Cosmology	2	1.
Nuclear Hadron Physics	Associate Professor	HYODO Tetsuo	Hadron Physics, Etoxic Hadrons, Theory of Resonances	3	A
Theoretical Astrophysics	Professor	FUJITA Yutaka	High-Energy Astrophysics, Cosmology	4	
Nonlinear Physics	Professor	SHUDO Akira	Nonlinear Dynamics, Classical and Quantum Chaos	5	
	Professor	MORI Hiroyuki	Low-Dimensional Systems, Cold Atoms, Quantum Phenomena		
Quantum Condensed Matter Theory	Associate Professor	ARAHATA Emiko	Quantum Gases, Superconductivity, Superfluidity	6	В
	Professor	HOTTA Takashi	Theory of Magnetism and Superconductivity in Strongly Correlated Electron Systems		
Strongly Correlated Electron Theory	Associate Professor	HATTORI Kazumasa	Condensed Matter Theory, Strongly Correlated Electron Systems, Quantum Critical Phenomena	7	
Experimental High Energy Physics	Professor	KAKUNO Hidekazu	Experimental High Energy Physics, Experimental Neutrino Physics	8	
Atomic Physics	Professor	TANUMA Hajime	Atomic Collisions and Spectroscopy, Electrostatic Ion Storage Ring, Highly Charged Ions, Ion Mobility in Gases, Laboratory Astrophysics		С
Experimental Astrophysics	Associate Professor ISHISAKI Yoshitaka X-ray Astronomy, Observations and Instrumentation		10		
Soft Matter Physics	Professor	KURITA Rei	Soft Matter, Phase Transition, Non Equilibrium	11	
Neutron Scattering and Magnetism	Associate Professor	KADOWAKI Hiroaki*	Quantum State of Matter, Neutron Scattering	12	
Correlated Electron Physics  Professor AOKI Yuji Topological and Strongly-Correlated Electron Systems, Superconduc Magnetism		Topological and Strongly-Correlated Electron Systems, Superconductivity and Magnetism	13	D	
Superconducting Material	Associate Professor	MIZUGUCHI Yoshikazu	Condensed Matter Physics, Superconductivity, Functional Materials		
Surface and Interface Physics	Surface and Interface Physics Professor YANAGI Kazuhiro Condensed Matt		Condensed Matter Physics in Nano Materials, Material Science	15	1
Nano-science Research	Associate Professor	MIYATA Yasumitsu	Synthesis of Nanoscale Materials, Electrical and Optical Properties		1

#### Affiliated graduate school

Research Field	Guest teacher	Affiliation	Research Subject
Strongly Correlated Electron Theory (Field 7)	KUBO Katsunori	JAEA	Theory of Superconductivity and Multipole Ordering Emerging from Multiple Degrees of Freedom
	ADACHI Ichiro NISHIDA Shohei	IK HK	High Energy Physics using SuperKEKB collider and Belle II detector, Search for New Physics beyond the Standard Model
Atomic Physics (Field 9)	AZUMA Toshiyuki	RIKEN	Atomic and Molecular Physics using an Electrostatic Ion Storage Ring, Resonance Coherent Excitation of Highly Charged Heavy Ions
Astrophysics (Field 10)	ISHIDA Manabu	JAXA	X-ray Astronomy, Observations and Instrumentation

#### **♦**Chemistry

Research Field	Thesis Adviser		Research Subject		
	Professor	SUGIURA Ken-ichi	Synthetic Chemistry		
Coordination Chemistry	Associate Professor	or NISHINAGA Tohru Physical Organic Chemistry, π-Conjugated Molecules, Organic Semiconductor		1	
Environmental and Analytical Chemistry	Professor	TAKEGAWA Nobuyuki	Atmospheric Chemistry, Aerosol, Online Particle Analysis		
	Professor	YAMAZOE Seiji	Functional Materials Chemistry, Catalytic Chemistry, X-ray Spectroscopy	сору 3	
Inorganic Chemistry	Associate Professor	OURA Yasuji	Radiochemistry, Cosmochemistry, Cosmogenic Nuclides		
0 1 10 1 10 1	Professor	ITO Yutaka	Solution-State NMR, In-cell NMR, Structural Biology	4	
Organic and Structural Biochemistry	Associate Professor	MISHIMA Masaki	Biomolecular NMR, Structural Biology, Molecular Biophysics		
	Professor	NOMURA Kotohiro	Organometallics, Molecular Catalysis, Organic Synthesis		
Organic Chemistry	Associate Professor	INAGAKI Akiko	Organometallics, Molecular Catalyst, Photocatalyst	5	
	Associate Professor	Abdellatif Mohamed Mehawed	hawed		
Dischausisters	Professor	HIROTA Kouji	DNA Repair, Chromatin, Replication		
Biochemistry	Associate Professor	TAOKA Masato	Proteomics, RNA, Biochemistry	6	
Physical Chemistry of Molecular Structure and Reaction	Professor	KANYA Reika	Physical Chemistry, Atomic Molecular Optical Physics	9	
Synthetic Organic Chemistry	Professor	SHIMIZU Toshio	Organic Chemistry, Main Group Element Chemistry, Host-Guest Chemistry	10	
	Professor	HADA Masahiko*	Quantum Chemistry, Electronic Structure Theory, Molecular Magnetic Properties		
Theoretical and Computational	Associate Professor	NAKATANI Naoki	Quantum Chemistry, Electronic Structure Theory, Transition Metal Complexes	11	
Chemistry	Associate Professor	KOMURA Shigeyuki	Physical Chemistry of Biological and Soft Matter		
	Associate Professor	SATO Soichi	Organic Chemistry, Main Group Chemistry, Material Chemistry		
Isotope Chemistry	Associate Professor	KUBUKI Shiro	Chemistry of Glass and Ceramics, Radiochemistry of fullerenes	12	

#### Affiliated graduate school

Research Field	Guest teacher	Affiliation	Research Subject
Organic and Structural Biochemistry (Field 4)	MIKAWA Tsutomu	IRIKEN	Biofuel cell which mimics metabolic pathways, Functional analysis of proteins which are important for homologous recombination
Biochemistry (Field 6)  KAJI Hiroyuki  Industrial Science and Technology (AIST)			Glycoscience and Glycotechnology

#### ◆ Biological Sciences

ection	Research Field		Thesis Adviser	Research Subjects	Fiel Num	
	Molecular Neuroscience	Assoc. Prof.	ANDO, Kanae	Neuroscience, Cell Biology, Molecular Biology, Neurological Diseases and Aging		
	Developmental	Assoc. Prof.	FUKUDA, Kimiko	Morphogenesis, Digestive Tract, Extra-embryonic tissue	2	
Biology	Biology	Assoc. Prof.	TAKATORI, Naohito	Germ Layer Fates, Polarity, Nuclear Migration	3	
	Cellular Biochemistry	Prof.	KAWAHARA, Hiroyuki	Protein Quality Control, Cell Cycle Control, Ubiquitin System	2	
	Cellular Genetics	Prof.	SAKAI, Takaomi	Molecular and celluler mechanisms of learning and memory	:	
	Molecular Genetics	Prof.	KATO, Jun-ichi**	Genetics, Molecular Biology, Genome Sciences		
		Assoc. Prof.	EHIRA, Shigeki	Molecular Biology & Molecular Physiology of Microorganisms		
	Plant Development and Physiology	Prof.	OKAMOTO, Takashi	Plant Development, Plant Reproduction		
	Neurobiology	Assoc. Prof.	KUROKAWA, Makoto*	Neurobiology, Comparative Physiology, Neural Control of Behavior		
		Assoc. Prof.	WEITEMIER,Zachary Adam	Behavior, Neurotransmission, Electrochemistry		
		Prof.	TAMURA, Koichiro	Evolutionary Genetics, Evolutionary Genomics, Bioinformatics		
	Evolutionary Genetics	Assoc. Prof.	TAKAHASHI, Aya	Evolutionary Genetics, Molecular Basis of Speciation, Population Genomics	1	
	Genetics	Assoc. Prof.	NOZAWA, Masafumi	Evolutionary Genetics, Evolution of Sex Chromosomes, Evolution of Small RNAs	Ī	
		Assoc. Prof.	KANEGAE, Takeshi	Plant Cell & Molecular Biology, Photoreceptor, Fern		
	Plant Environmental Responses	Assoc. Prof.	NARIKAWA, Rei	Photobiology, Photosynthesis, Optogenetics		
	Environmental Microbiology	Prof.	HARUTA, Shin	Microbial Ecosystems, Interspecies Interaction, Ecophysiology		
	Animal Ecology	Prof.	HAYASHI, Fumio*			
		Assoc. Prof.	OKADA, Yasukazu	Ecology, Behavior, Evolutionary Ecology, and Ecological Developmental Biology of animals		
	Plant Ecology	Prof.	SUZUKI, Jun-Ichirou	Plant Ecology, Conservation Ecology, Theoretical Ecology		
	Systematic Zoology	Assoc. Prof.	EGUCHI, Katsuyuki	Systematics and Biogeography of Invertebrates (mainly Terrestrial Arthropods)		
		Assoc. Prof.	CRONIN, Adam L.	Behaviorual Ecology, Evolutionary Ecology, Collective Behavior of Social Insects and Others		
	Systematic Botany	Prof.	MURAKAMI, Noriaki	Molecular Systematics, Evolutionary Biology and Island Biology of Plants and Fungi, Pteridology		
		Assoc. Prof.	KAKUGAWA, Yoko	Phylogenetic Taxonomy of Plants, Evolutionary Biology		
	Molecular Neuroscience	Assoc. Prof.	ANDO, Kanae	Neuroscience, Mechanisms underlying Alzheimer's disease and other tauopathies, Drosophila models of neurodegenerative disease		
	Developmental Biology	Assoc. Prof.	TAKATORI, Naohito	Asymmetric Cell division, Microtubules, mRNA localization		
>	Cellular Biochemistry	Prof.	KAWAHARA, Hiroyuki	Protein quality control mechanisms related to immunology, oncology, diabetes and neurodegenerations		
Biotecnnology	Molecular Genetics	Prof.	KATO, Jun-ichi**	Bacterial Synthetic Biology, Genome Sciences	Ī	
	Plant Development and Physiology	Prof.	OKAMOTO, Takashi	Production of hybrid and polyploid plants by gamete breeding	l	
cine an	Stem Cell Modulation	Prof.	HARA, Takahiko	Blood regeneration by using ES/iPS cells and development of anti-cancer/leukemia drugs		
Biomedicine and	Protein and organelle degradation	Assoc. Prof.	MATSUDA, Noriyuki	Elucidate mechanisms underlying mitochondrial quality control to suppress familial forms of Parkinson's disease	t	
	Molecular Regulation of Aging 2)	Prof.	ISHIGAMI, Akihito	Elucidation of aging mechanism and anti-aging research		
	Plant Growth Regulation 3)	Assoc. Prof.	SEO, Mitsunori	Plant Hormones, Seed Biology	t	
	Chemical Biotechnology		ITO, Yoshihiro**	Design and development of bioconjugated molecules and materials for biomedical applications	T	

1)Tokyo Metropolitan Insitute of Medical Science

Tokyo Metropolitan Institute of Gerontology

3)RIKEN

#### ♦ Affiliated graduate school

Field Number	Guest Professor	Affiliation	Research Subjects	
1	MIURA, Yuri	Tokyo Metropolitan Institute of Gerontology	Search for diagnostic markers using proteome-based technologies	
1	NONAKA, Takashi	Tokyo Metropolitan Insitute of Medical Science	Molecular mechanisms of neurodegenerative diseases	
2	MARUYAMA, Chiaki	Tokyo Metropolitan Insitute of Medical Science	Brain development, Cell Migration, Neocortical Evolution	
4	INOUE, Azusa	RIKEN Integrative Medical Sciences	Intergenerational epigenetic inheitance in mammals	
5	UENO, Kohei	Tokyo Metropolitan Insitute of Medical Science	Neural plasticity in the Drosophila brain	
14	IINO, Takao	RIKEN, BioResource Research Center	Isolation and polyphasic taxonomy of yet-to be cultured archaea and bacteria.	