# Graduate School of Engineering Nagasaki University Doctoral Degree Application Guidelines

## Department of Science and Technology

## 2023, October Entrance for New Students

General Examination / Examination for Those Currently Employed / Examination for International Students

(Summer Application)

Graduate School of Engineering, Nagasaki University

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# Index

Admission Policy	1
<ul> <li>2023, October Entrance for New Students (Summer Application)</li> <li>General Examination / Examination for Those Currently Employed / Examination for International Students</li> </ul>	3
Diploma Policy	12
Curriculum Policy	13
Faculty List and Research Focus	16
Disclosure of Entrance Examination Score	19

## Admission Policy of the Department of Science and Technology Graduate School of Engineering, Nagasaki University

#### 1. Educational Philosophy and Aim of the Graduate School of Engineering

#### (Educational Philosophy)

As an educational and research base for advanced engineering which coexists with nature and commits to the sustainable development of human society, the Graduate School of Engineering will foster highly professional engineers and researchers who possess professional and interdisciplinary knowledge along with as high expertise across a wide range of engineering topics, and who will be able to play an active role in the international field. We will also contribute to promoting innovative science and technology of next generation through conducting pioneering and innovative research.

#### (Aim)

To develop in students professional and interdisciplinary knowledge along with high expertise across a wide range of engineering topics, and to cultivate their skills to explore and solve problems as well as their capabilities to conduct internationally pioneering research and development.

# 2. Educational Philosophy and Aim of the Department of Science and Technology of the Graduate School of Engineering

The Department of Science and Technology, the Graduate School of Engineering, aims to foster human resources who will contribute to the development of innovative science and technology of next generation in order to realize an eco-friendly society that serves quality of life. This includes 1) constructing highly advanced mechanical system, social infrastructure system, and electrical information system, 2) discovering new materials and inventing their new functions, and 3) promoting technologies that will also contribute to the development of Asian and African countries.

# **3.** Admission Policy of the Department of Science and Technology of the Graduate School of Engineering

The Department of Science and Technology expects its students to possess the following academic skills, competencies and attributes:

• High-level and fundamental academic skills as well as professional practical skills (as equivalent to master's level) in either discipline of Systems Engineering (mechanical system and social infrastructure system), Electrical Engineering and Computer Science, Chemistry and Materials Science, Water and Environmental Science, or Frontiers of Marine Science.

• Willingness to contribute to the promotion of innovative science and technology of next generation.

• Willingness to acquire more advanced professional knowledge and skills as well as to apply these knowledge and skills in innovative research.

- Sense of ethics and high security awareness required as an engineer and/or researcher.
- Strong willingness to help respond to the demand of industry and society.

- Knowledge and skills to explore and solve problems in a wide range of engineering topics.
- Communication skills in a global context.
- Strong willingness to contribute to a recycling-oriented society with respect to nature and ecosystem.

#### Appendix about the Screening Method

Evaluation methods for the required aptitude and its priority (most prioritized : <sup>(O)</sup>, prioritized : <sup>(O)</sup>)

Examination Type	General Examination	Examination for Those Currently Employed / Examination for International Students	Screening for Masters Graduates
Expected Competencies	Writing or Interview/Oral Examination	Interview and Oral Examination	Writing or Interview/Oral Examination
High-level and fundamental academic skills as well as professional practical skills (as equivalent to master's level)	Ø	Ø	O
Willingness to contribute to the promotion of innovative science and technology of next generation	0	0	Ο
Willingness to acquire more advanced professional knowledge and skills as well as to apply these knowledge and skills in innovative research	0	0	0
Sense of ethics and high security awareness required as an engineer and/or researcher	0	0	0
Strong willingness to help respond to the demand of industry and society	0	0	0
Knowledge and skills to explore and solve problems in a wide range of engineering topics	0	0	0
Communication skills in a global context	0	0	0
Strong willingness to contribute to a recycling-oriented society with respect to nature and ecosystem	0	0	0

2023, October Entrance (Summer Application)

General Examination Examination for Those Currently Employed Examination for International Students

#### 1. Number of Students to be Admitted

Department	Entrance Examination Category	Program	Number of Students to be Admitted
	General Examination	Systems Engineering	
Department of Science and Technology	Examination For Those Currently Employed     Examination for	Electrical Engineering and Computer Science	4
	International Students	Chemistry and Materials	
		Science	
	Examination for International	Water and Environmental	
	Students	Science	

(Note) The number includes candidate(s) who apply under the "Screening for Masters Graduates, Graduate School of Engineering, Nagasaki University."

Approximate number of acceptance in each course.

OSystems Engineering Program	٦	
OElectrical Engineering and Computer Science Program	}	2
OChemistry and Materials Science Program	J	
OWater and Environmental Science Program		2

#### 2. Application Requirements

For those who fulfilled one of the following requirements.

For candidate(s) under "Examinations for Those Currently Employed" must be working as a regular employee of a company at the time of application and has the consent from an authorized supervisor, as well as be fulfilled one of the following requirements.

For candidates(s) under "Examination for International Students" must be non-Japanese citizens (excluding those with Japanese permanent resident status) who fulfilled one of the following categories:

- (1) Those who have obtained (or are expected to obtain by September, 2023) a master's or a professional degree.
- (2) Those who have been conferred (or will be conferred by September, 2023) a master's degree or a degree equivalent to a professional degree in countries other than Japan.
- (3) Those who have been conferred (or will be conferred by September, 2023) a master's degree or a degree equivalent to a professional degree in Japan after the completion of required correspondence courses conducted by an authorized school outside Japan.
- (4) Those who have been conferred (or are expected to be conferred by September, 2023) a degree equivalent to a master's or a professional degree after completing postgraduate courses at the a foreign education institute in Japan, which is recognized by the Ministry of Education, Culture, Sports, Science and Technology.
- (5) Those who have completed the courses from the United Nations University and have been conferred (or are expected to be conferred by September, 2023) a degree equivalent to a master's degree.
- (6) Those who have completed or will complete the education program at a foreign school, the United Nations University, or an education facility specified in (4), and those who have

passed or expected to pass by September, 2023 the examination as well as screening test prescribed in Article 16 of the Establish Standards of the Graduate School and have had their academic achievement recognized as equivalent to or greater than those with a master's degree. (See "3. Eligibility Preliminary Screening")

- (7) Those who are specified by the Ministry of Education Culture, Sports, Science and Technology. (1989 Ministry of Education, Public Notification No.118) as follows:
  - ① Those who have been engaged in research for more than two years at university or research institutes after their university graduation and have had their academic achievement through the relevant research result recognized as equivalent to or greater than those with a master's degree. (Refer to "3. Eligibility Preliminary Screening")
  - ② Those who have been engaged in research for more than two years at a university or research institutes after completing 16 years of required school education in countries other than Japan, or completing 16 years of required school education by correspondence course conducted by foreign countries, in Japan, and have had their academic achievement recognized as equivalent to or greater than those with a master's degree through the relevant research result by the Graduate School of Engineering. (Refer to "3. Eligibility Preliminary Screening")
- (8) Those who have been deemed to have academic ability equivalent to or greater than those in the Graduate School through individual preliminary screening, and will be at least 24 years of age by September 30, 2023. (Refer to "3. Eligibility Preliminary Screening")

#### 3. Preliminary Eligibility Screening

(1) Candidates applying under the "Application Requirements (6), (7) or (8)" must submit the following documents to the Student Affairs Section for Graduate School of Engineering by April 14, 2023 (Fri).

Submission Documents	Note
Application for Preliminary Screening [Form 5]	Prescribed Application Form
Application Form [Form1]	Prescribed Application Form
Certified (original) copy of Graduation Certificate	Issued under the authority of the president of the university from which the applicant graduated.
Official Transcript	Issued and officially sealed under the authority of the president of the university from which the applicant graduated. In addition, the grade scale, showing the grading system issued by the university, must be submitted.
Research Achievement [Form 6]	Fill out with Thesis, Presentations, Research Progress, and Academic Presentations (Only for those who have any) in the prescribed form
Research Progress Report [Form 7]	Describe the details of "Research Achievement [Form 6]" in the prescribed form with a copy of the evidence attached. (Reprints of the thesis, papers, and excerpts)
Qualified Certificate (Expected Qualified Certificate) (Only applicable for candidates who apply under the "Eligibility Preliminary Screening (6)")	Those who have passed or expected to pass the exam that equivalent to Qualifying Examination or those who apply under Eligibility Preliminary Screening (6) must submit the (expected) Qualified Certificate issued under the authority of the President or the Dean of the University.
Return Envelope for Preliminary Screening Result [No.3 Long Type (12 cm × 23.5 cm)]	A self-addressed return envelope with ¥344 worth of stamps affixed. (Express)

(\*) Forms are available for downloading from the home page "The Graduate School of Engineering, Nagasaki University.", (URL : http://www.eng.nagasaki-u.ac.jp/english/contents/01\_g\_admission.html)

(2) Eligibility preliminary screening based on the submitted documents.

The results of the Eligibility Preliminary Screening will be sent to candidates by May 18, 2023 (Thu). Those who are deemed eligible for application must follow the procedures set out in "4. Application Period" and "5. Application Procedures".

#### 4. Application Period

From June 5, 2023 (Mon) to June 9, 2023 (Fri)

(1) Applications must be sent by registered express mail service and received by the deadline.

Postal Address: Student Affairs Section for the Graduate School of Engineering

West District Division, Nagasaki University

1-14 Bunkyo, Nagasaki 852-8521, Japan

(2) Candidates may submit the documents in person between 9:00 to 17:00.

#### 5. Application Procedures

Candidates must submit the following documents to the Student Affairs Section for the Graduate School of Engineering by the deadline.

\* Forms can be downloaded from the following link:

http://www.eng.nagasaki-u.ac.jp/english/contents/01\_g\_admission.html \* You can receive the payment transfer form of the entrance examination fee and the address sticker at the Student Affairs Section or ask them by mail (see "15. Other Information").

Submission Documents	Note			
	Fill out the prescribed application form			
Application Form	* Consult with your prospective academic advisor (Reference "Faculty List and Research			
[Form1]	Focus") prior to filling in the form.			
	Except for those already submitted for the preliminary eligibility screening.			
Photo Card/ Admission				
Ticket / Payment of	Attach your ID photos (size L 4cm x W 3 cm, upper body, no hat or cap, full face view,			
Certificate for the	taken within the 3 months) on the prescribed Photo Card and Admission Ticket.			
Entrance Examination				
Fee [Form2]				
Certified (original) copy of				
Graduation Certificate or	Issued under the authority (Dean) of the president of the university from which the applicant			
Expected Completion	graduated.			
(Highest education	Except for those already submitted for the preliminary eligibility screening.			
degree)				
	Issued and officially sealed under the authority (Dean) of the president of the university			
Official Transcript	from which the applicant graduated.			
(Highest education	Except for those already submitted for the preliminary eligibility screening.			
degree)	In addition, the grade scale, showing the grading system issued by the university, must be			
	submitted.			
	Till and discussion and the second			
Research Achievement	Fill out dissertations, presentations, research reports, and academic conference presentations in the preservice form (Only for those who have the performance results)			
[Form 6]	Except for those already submitted for the preliminary eligibility screening			
	Except for those aneary submitted for the premininary englorinty serverining.			
Research Progress Report	Candidates must submit a detailed description of "Research Achievement [Form 6] " with			
(Form 7)	a copy of the documents that serve as evidence of success attached in the prescribed form.			
	Except for those already submitted for the preliminary eligibility screening.			
Dissortation Contants	Describe the obstract of the Master's Thesis in 1,000 words or less in the prescribed form			
[Form 8]	Except for candidates without master's degree			
Abstract of Your				
Research Plan	Fill out the abstract of the research plan in the prescribed form			
[Form 9]				
Consent form of the				
Examination and	Those who are employed by the government or any private company must submit the			
Enrolment	prescribed consent form signed by the head of the organization			

Submission Documents	Note			
Address Sticker	Candidates must fill in their name, address, and nostcode accurately.			
(Available at Student	If there are any changes after submission candidates must notify immediately			
Affairs Section)	If there are any changes after submission, candidates must notify minediatery.			
Return envelope for				
admission ticket	A self-addressed prescribed envelope with $\$344$ worth of stamps affixed (Express)			
[No.3 Long Type				
$(12 \text{cm} \times 23.5 \text{cm})$ ]				
Proof of legal status in				
Japan (Foreign	A photocopy of the Visa or a Residence Card			
Candidates only)				
	(Payment Period)			
	From June 5, 2023 (Mon) to June 9, 2023 (Fri)			
	(Payment Method)			
	Image: Access the E-payment site as below:         Image: Image: Image: Image: https://e-shiharai.net/			
	<ul> <li>English: https://e-shiharai.net/ecard/</li> </ul>			
	Note: Nagasaki University Graduate School is not listed on the "e-shiharai.net/english" page.			
	① On the Japanese page, click "天字阮(the graduate school)", then "王しの字校を衣示する (Show all schools)" and then "長崎大学大学院(国立大学法人) (Nagasaki University			
	Graduate School (National University Corporation))".			
	② On the English page, click "Examination Fee".			
	Please follow the instructions on the screen.			
	The Entrance Examination Fee can be paid by either one of the following methods: (1) convenience store payment (2) Pay easy $\Delta TM$ (payment at financial institutions)			
	<ul><li>(3) Pay-easy net banking, or other internet banking (4) Credit card</li></ul>			
	*For the E-payment service English version, ONLY Credit card settlement is available.			
	Any fees required for payment shall be borne by the payer.			
	the application screen.)			
	(Pavment Certificate)			
Entrance Examination	The following form must be attached to the slip titled "Payment Certificate for the Entrance			
Fee ¥30,000	Examination Fee" (hereinafter referred to as the "SLIP") for each payment method selected.			
	In the case of (1) payment at a convenience store: After payment, cut along the dotted line of the "如納証明書(Certificate of Received)" part of the "取扱明細書(取扱明細書)			
	(Transaction Statement (Transaction Statement and Receipt))" that you received at the			
	convenience store and affix it to the SLIP and submit it.			
	In the case of (2) Pay-easy ATM (payment at financial institutions): After payment, aftix the "こ利 田昭知童(Transaction Details Slip)" that you received to the SLIP and submit it			
	In the case of (3) Pay-easy net banking, or other internet banking, and (4) credit card:			
	After payment, access the E-payment site, enter the [受付番号(Receipt Number)] and [生年月日			
	(Date of Birth)], and you will be notified when the process is completed. Click "照会結果(Inquiry			
	Should you have any questions about the procedures of the E-payment service, click and check the			
	"利用ガイド(user guide)" and "よくある質問 (Frequently Asked Questions)" on the Japanese page			
	or "FAQ" on the English page of the service and contact the E-Service Support Center.			
	(Phone: 0120-977-536(Domestic) +81-3-5952-9052(Overseas)/ Email: e-customer@e- shiharai net)			
	If none of the above methods is available, please contact the Fund Management Team, Accounting			
	and Procurement Division, Administration Department (Phone: 095-819-2060/			
	Email: sikin@ml.nagasaki-u.ac.jp).			

Submission Documents	Note	
	(Important Notice for your application)	
	Your application will not be accepted if a payment certificate is not affixed or attached.	
In principle, the Entrance Examination Fee is not refundable. [Inquiries regarding refunds]		
	(TEL +81-95-819-2060)	
	* Overseas students on Japanese Government (Monbukagakusho: MEXT) scholarship are not	
	required to pay the fee.	

- 6. Notes on the Application
- (1) In principle, changes to the content of applications are not permitted once application procedures have been completed.
- (2) All the submitted documents for the application cannot be returned.
- (3) Inquiries about the entrance examination should be made by e-mail or postal mail. When sending inquiries by postal mail, please be sure to enclose a self-addressed, stamped envelope for reply. Please note that inquiries by telephone will not be accepted.

(E-mail : seisan\_daigakuin@ml.nagasaki-u.ac.jp)

7. Screening Method

The examination subjects depend on the type of entrance examination as follows. The General Examination includes either "①Writing" or "②Interview and Oral Examination" for each candidate. Candidates who choose to take "①Writing" must take two subjects, otherwise they will result in failure.

 Date of Examination (The date and the time that the school specifies during the following period) From June 28, 2023 (Wed) to June 30, 2023 (Fri)

#### (2) Examination Venue

Graduate School of Engineering, Nagasaki University 1-14 Bunkyo, Nagasaki, Japan 852-8521

Entrance Examination Category	Subject		Allocation points	Total
		English	100	200
	Uwriting	Special Subject	100	200
General Examination	②Interview and Oral Examination [Including the screening of the submitted documents]		200	200
Examination For Those Currently Employed	Interview and Oral Examination [Including the screening of the submitted documents]		200	200
Examination for International Students	Interview and Oral Examination [Including the screening of the submitted documents]		200	200

#### (3) Examination Subject / Allocation points

Regarding General Examinations, the Graduate School decides which examinations to conduct and notifies applicants in writing at the time of sending out admission tickets.

\* The written examination will be conducted on content related to the desired research field.

\* An individual interview and an oral examination will be held by multiple examiners.

(4) Acceptance Criteria

Successful candidates will be those who score more than 60% of the total score.

An Interview and an Oral examination will be evaluated based on the following evaluation contents.

(Evaluation contents)

Candidates will be evaluated on their motives for the application, basic scholastic achievement of master's degree, as well as their plans for research in a comprehensive way through an interview refer to the application documents.

(5) Entrance Examinations over the Internet

International Students may be eligible for taking an Interview and an Oral Examination over the Internet. Candidates for the Online Interview must first contact his/her prospective academic advisor and send him/her a resume and contents of their research <u>at least a month before the first</u> <u>day of the application period</u>. Candidates must make sure to thoroughly discuss with his/her prospective academic advisor before applying.

#### 8. Notes on Examination

- (1) Candidates must bring the Admission Ticket issued by this graduate school on the day of the examination.
- (2) Candidates must be at the designated rendezvous point 20 minutes before the examination starts.
- (3) All cellular phones must be turned off before entering the examination room.
- (4) Candidates from distant areas need to plan the trip carefully in consideration of the possibility of inconveniences caused by the weather conditions. The examination date may be postponed in case of an unforeseen event, such as a natural disaster, on the day of the examination.
- (5) In principle, no supplementary examination will be available. However, it may be conducted depending on the infection status of COVID-19 or in the case where a compelling reason is deemed to exist. In addition, in case of an unforeseen event, a re-examination may be conducted.

#### 9. Announcement of Successful Candidates

July 20, 2023 (Thu) 10:00 AM

- \* The results for the successful candidate(s) will be notified through the mail and also announced on the Graduate School of Engineering notice board on the day.
- \* Also, the successful candidate(s) will be listed on the homepage of the Graduate School of Engineering, Nagasaki University, from 10:00 AM on the day.

(URL : http://www.eng.nagasaki-u.ac.jp/english/contents/01\_g\_admission.html)

\* Inquiries regarding the examination results will not be accepted over the phone.

#### 10. Enrollment Procedures

Successful candidates must follow the enrollment procedures outlined below. More details will be enclosed in the notification for the successful candidates.

(1) Procedures Period

From August 30, 2023 (Wed) to September 1, 2023 (Fri) 9:00-17:00

#### (2) Fees

Enrollment Fee • • • • • ¥282,000

(Note) Enrollment fees shall not be refunded once paid.

[Additional Information]

- Tuition Fee for 2023 (Annually) : ¥535,800 (The first semester ¥267,900 / The second semester ¥267,900)
- Payment periods for the tuition fee will be as follows.
   The first semester: April
   The second semester: October
- ③ If the amendment of the tuition fee has been conducted, the new tuition fee will apply from the date of revision.
- (4) The Exemption of deferment of the enrollment fee and tuition fee is possible. (Details will be enclosed with the procedural documents)
- (5) Admission and tuition fees are not required for international students supported by Japanese government (Monbukagakusho: MEXT) scholarships.

#### 11. Handling of Personal Information

- (1) Obtained personal information is used for selecting enrollees. The personal information of successful candidates and enrollees is used for enrollment procedures and student registration.
- (2) The grades of the entrance examination and other personal information are used as the references for the recommendation of the 1st year scholarship students, as well as for the selection of the candidates for exemption of entrance fee and tuition fee.
- (3) Obtained personal information for the selection of enrollee and for the entrance examinations are also used in statistical surveys and research related to the selection of enrollees.
- (4) Obtained personal information through (via) the application documents and entrance examination is neither used for purposes other than the purposes mentioned above nor provided to third parties, except the case as provided in Article 9 of "Act on the Protection of Personal Information Held by Independent Administrative Agencies."

#### 12. For Applicants Requiring Disability-related Accommodations

Applicants with disabilities who require (assistance / special care) on their examination as well as attending classes may consult with the Student Administration Office of the Graduate School of Engineering. The applicant should include the following information along with a medical certificate by May 26, 2023 (Fri).

Applicants will never be negatively affected in the screening process by the results of an advance consultation.

If necessary, an interview may be held with the applicant or the spokesperson from the university where the applicant received his/her last degree. If one fails to apply in advance, it might result in no (assistance/special care) available.

The description of the application form

- (1) Category of the Entrance Examination and the name of the course you apply
- (2) Type and condition of disabilities
- (3) Description of assistance request at the entrance examination
- (4) Description of the assistance request after enrollment

- (5) The assistance service received at the former academic institute
- (6) Additional information
- (7) Name, Address, and the Contact Phone Number (FAX Number)
- ☆ Nagasaki University Student Accessibility Office will support students and applicants with disabilities.

#### 13. Security Export Control

Nagasaki University performs security export control based on the "Foreign Exchange and Foreign Trade Act" so that education and research contents of foreign students do not obstruct the maintenance of international peace and security. Please note that the applicants may be required to change their desired education and research content. In addition, please inquire for the details of each department.

#### 14. Measures on the Novel Coronavirus Infection

Before submitting your application, you should be aware that the following measures may be taken depending on the situation of the spread of COVID-19. The examination date may be postponed, or the selecting method may be changed (Ex. Interviews may be conducted online), and an additional examination may be conducted. Furthermore, the postponement of the examination date will be announced on the website of the Graduate School of Engineering, Nagasaki University. (URL : http://www.eng.nagasaki-u.ac.jp/english/contents/01\_g\_admission.html)

#### 15. Other Information

The request for the application forms (the payment transfer form of the entrance examination fee and the address sticker) by mail requires a self-addressed return envelope (24 cm x 33 cm) with \$120 worth of stamps affixed. The request must be sent to the Student Affairs Section for the Graduate School of Engineering in the envelope with "Request for Doctoral Degree Application Forms, Department of Science and Technology, Graduate School of Engineering, Nagasaki University" written in red ink on the front.

Inquiry

Student Affairs Section for the Graduate School of Engineering West District Division, Nagasaki University

1-14 Bunkyo, Nagasaki, Japan 852-8521

# Diploma Policy Curriculum Policy Faculty List and Research Focuses

#### **Diploma Policy**

Doctoral Degree of Engineering will be conferred on a student who has been enrolled in the Graduate School of Engineering for more than 3 years, and who has earned the credits (more than 15 credits) prescribed in the educational program (refer to [1]). The student must also be recognized to have the following skills and attributes:

• Truly professional and interdisciplinary knowledge, professional practical skills, skills to promote innovation research and problem solving skills in either discipline of Systems Engineering (mechanical system and social infrastructure system), Electrical Engineering and Computer Science, Chemistry and Materials Science, or Water and Environmental Science.

- Strong willingness to contribute to the promotion of innovative science and technology of next generation.
- Sense of ethics and high security awareness required as a highly professional engineer and/or researcher.

• Communication skills and leadership in a global context.

In addition to the above, the student's doctoral thesis must meet the requirements for a degree conferral (refer to [2]).

[1] A student who has achieved outstanding performance might be conferred degree even if he/she has been enrolled only for one year.

[2] The Doctoral Thesis must be relevant to engineering and must have high academic value in novelty, creativeness, universality and demonstrability. In order to prove its suitability as a doctoral thesis, the submitted paper must include at least two original theses that have been published or intended to be published in an academic journal based on its established assessment system (subject to the submission of at least one original thesis after the student's entrance in the Doctoral Course of the Graduate School of Engineering. The submitted paper may include one original thesis under review for publication in an academic journal based on established assessment system.).

#### **Curriculum Policy**

• The educational curriculum has been structured comprehensively with the discipline of Systems Engineering (mechanical system and social infrastructure system), Electrical Engineering and Computer Science, Chemistry and Materials Science, and Water and Environmental Science. Students will acquire a wide range of knowledge as well as skills to explore and solve problems.

• "General Course" offered as one of the common courses is consisted of two mandatory classes. "Special Seminar on Science and Technology" is conducted by an assistant supervisor of the student, while "Special Research on Science and Technology" is jointly conducted by multiple faculty with different specialty. They will nurture general and applicable skills.

Academic achievement will be measured by submitted report, oral examination, writing examination, presentation and debate, depending on the contents of each course.

• "Special Lecture on Science and Technology" is conducted by multiple lecturers including enterprise professors on the topic of collaboration of academia and industry. This course is to help students grasp the entire idea of engineering.

Academic achievement will be measured by submitted report, oral examination, writing examination, presentation and debate, depending on the contents of each course.

• Four modules of each program: "Modules for Systems Engineering", "Modules for Electrical Engineering and Computer Science", "Modules for Chemistry and Material Science" and "Modules for Water and Environmental Science" are to nurture advanced knowledge of professional discipline.

Academic achievement will be measured by submitted report, oral examination, writing examination, presentation and debate, depending on the contents of each course.

Courses		Specialized Course			1
Key attributes to be nurtured	General Course	Systems Engineering Program	Electrical Engineering and Computer Science Program	Chemistry and Materials Science Program	Water and Environmental Science Program
General and Applicable skills	Special Seminars on Science and Technology Special Researches on Science and Technology Field Exercises on Science and Technology Off-Campus Research Special Off- Campus Research English and Communication n Innovation Management / Technology, IP & Open Innovation Strategies Global Entrepreneursh ip				
Overall understand ing of engineerin g	Special Lectures on Science and Technology Advanced Technology Commercializa tion				
Profession al knowledge and skills	Computational Sciences and Supercomputin g	Advanced Robotics Human-machine Systems Fracture Analysis Advanced Tribology Machine Element and Systems for Power Transmission Advanced Ultra-precision Machining and Measurement Optical Measurement of Thermal Fluid Advanced Heat and Mass Transfer Thermodynamic Analysis of Transformation Processes	Advanced Optical Electronics Advanced Electromagnetics Advanced Applied Antenna Engineering Applied Electromagnetic Wave Engineering Advanced Power Electronic Circuits Advanced Energy Electronics Advanced Nonlinear Circuits and Systems Advanced Plasma Materials Science Advanced Magnetics Advanced Magnetics Advanced Electric Drive System Design Advanced power converter control	Advanced Characterization of Surfaces Chemistry of Functional Ceramics Advanced Fine Structural Materials Science Advanced Metal Physics Inorganic Composite Materials Materials Physics Advanced Solid State Physics Inorganic Nano - Materials Biomolecular Function Biofunctional Materials Chemistry	Advanced membrane separation technology Environmental process engineering International water treatment engineering Advanced international internship and research activities Water Recycling Technologies Planning of Water Treatment Plants Water Quality Monitoring Practicum

## Appendix about the courses of the Department of Science and Technology

Courses		Specialized Course			
Key attributes to be nurtured	General Course	Systems Engineering Program	Electrical Engineering and Computer Science Program	Chemistry and Materials Science Program	Water and Environmental Science Program
Profession al knowledge and skills		Advanced ChemicalThermodynamicsApplied Strength ofMaterials IAdvanced StructuralAnalysis and DesignAdvanced MaintenanceSystem of ConcreteStructuresAdvanced CompositeMaterial and StructureTheory of Planning forthe SustainableHabitationAdvanced Stability andVibration of StructuresBuilding EnvironmentalPlanningAdvanced ConcreteMaterialsAeroelasticityAdvanced LandscapeDesignAdvanced Public ProjectPlanningGeo-sphereEnvironmentalEngineeringAdvanced RoumericalMethods inGeomechanicsAdvanced Geo-DisasterPrevention EngineeringMaintenance EngineeringMaintenance EngineeringMaintenance EngineeringMaintenance Engineeringof Steel StructuresRemote MonitoringTechnology for CivilStructureAdvanced MaterEnvironmentalHydraulicsAdvanced WaterEnvironmentalManagement System &EnvironmentalAssessmentAdvanced EnvironmentalDesign	Electromagnetic Energy Radiation and Transmission Advanced Electric Energy System Advanced Theory of Electro-mechanical Energy Conversion Analog CMOS Integrated Circuit Advanced Information Processing System Advanced Applied Multimedia Advanced Software Science Advanced Reconfigurable Systems Advanced Applied Image Science Advanced Information Network Advanced Information Network Advanced Applied Algebra for Communication Advanced Applied Imaging Technology Image Information Processing Advanced Date Mining Applications	Advanced Chemical Synthesis of Natural Products Transition-metal Catalyzed Efficient Transformation of Materials Advanced Applied Coordination Chemistry Advanced Inorganic Material Transformation Chemistry Advanced Spectroscopy Advanced Molecular Organization Science Advanced Functional Interface Science Advanced Polymer Science Advanced Interfacial Structure Chemistry Advanced Quantum- Computation based Materials Design Advanced Analytical Techniques for Solid Materials	

		Systems Engineering Program
Faculty	Position	Research Focus
OKUMATSU Toshihiro	Professor	Development of measurement technology for structural health monitoring
OMINE Kiyoshi	Professor	Advanced geotechnical engineering and geo-environmental engineering
GENJO Kahori	Professor	Study on environmental performance and biophilic design of building
SAKAGUCHI Daisaku	Professor	Multi-objective optimization of turbomachinery
JIANG Yujing	Professor	Maintenance management and design for underground structures
NAKAHARA Hiroyuki	Professor	Aseismic design for building structure
NAKAMURA Shozo	Professor	Improvement of design and maintenance method for steel structures
MOMOKI Satoru	Professor	Flow regime and heat transfer of gas-liquid two-phase flow evaporating
YASUTAKE Atsuko	Professor	Design and management method for maintaining and developing dwelling environment
YAMAGUCHI Tomohiko	Professor	Measurement and prediction of thermophysical properties of fluids
YAMAMOTO Ikuo	Professor	Research on advanced robot systems
Ishibashi Tomoya	Asso. Prof.	Practical research on landscape design and regional planning
OKUMURA Tetsuya	Asso. Prof.	Fluid behavior in the vicinity of solid surfaces
KOYAMA Atsuhiro	Asso. Prof.	Evaluation of fatigue strength of the various engineering materials, Development of scanning laser induced acoustic microscope
SASAKI Kenji	Asso. Prof.	Advancement of evaluation method for material and construction performance toward improving quality and productivity of concrete structures
SUGIMOTO Satoshi	Asso. Prof.	Development of monitoring system and mechanical evaluation for slopes and soil structures
SUZUKI Seiji	Asso. Prof.	Study on the substance transportation in aquatic environment considering behavior of lives
SETO Shinta	Asso. Prof.	Satellite remote sensing of precipitation and its application for disaster prevention
TANAKA Yoshiyuki	Asso. Prof.	Human-machine systems based on biological motor control mechanism
NAGAI Hiroto	Asso. Prof.	Development and multidisciplinary analysis for flexible aerospace structural system
NISHIKAWA Takafumi	Asso. Prof.	Advanced sensing and monitoring techniques for bridges and civil structures
YAMAGUCHI Kohei	Asso. Prof.	Development of high quality maintenance and repair technology of infrastructure structure, and development of diagnostic technology for its social implementation
YOSHIKAWA Sayaka	Asso. Prof.	Water resource projection under land use change

Electrical Engineering and Computer Science Program			
Faculty	Position	Research Focus	
ABE Takashi	Professor	Development research of power conversion and motor drive systems	
ISHIZUKA Yoichi	Professor	Power electronic and analog integrated circuits	
ENAMI Yasufumi	Professor	Ultra-fast optical communication devices and fiber sensor networks based on the optical waveguide	
OSHIMA Tamiko	Professor	Study on fabrication of functional thin films using plasma process	
OZAKI Tomochika	Professor	Research on spatial computing, which fuses virtual information with real space.	
KANAYA Ichiro	Professor	Research on the ideal relationship between humans and artifacts (including analysis of ancient Egyptian heritages and productions of media arts)	
KIYASU Senya	Professor	Pattern information processing, pattern recognition	
KOBAYASHI Toru	Professor	Study of Intelligent Robot which fused in IoT and AI	
SHIBATA Yuichiro	Professor	Reconfigurable architectures and parallel processing	
TAKADA Hideaki	Professor	Research on human-friendly communication media using high-reality image and audio technology	
TANAKA Toshiyuki	Professor	Research on non-invasive (non-destructive) diagnostic methods using electromagnetic waves	
JUN Byungdug	Professor	Photogrammetry, remote sensing	
ARAI Kenichi	Asso. Prof	Evaluation of cryptographic protocol security	
ICHIFUJI Yu	Asso. Prof.	Development of big data driven policy and decision making support system	
ITO Sohei	Asso. Prof.	Software engineering, formal methods, process mining	
SAKAI Tomoya	Asso. Prof.	Mathematical modeling and optimization for pattern recognition and machine learning	
SETOZAKI Norio	Asso. Prof.	Development and assessment of virtual reality contents	
HARASAWA Ryuichi	Asso. Prof.	Computational number theory and it's application to cryptography	
FUJISHIMA Tomoyuki	Asso. Prof.	Electrical discharge, ozone generation, application of electrical discharge to environmental problems etc	
FUJIMURA Makoto	Asso. Prof.	Image processing	
FUJIMOTO Takafumi	Asso. Prof.	Research on high functional antennas	
FURUSATO Tomohiro	Asso. Prof.	Study on discharge plasma applications using pulsed power technology	
MATSUOKA Satoshi	Asso. Prof.	Development of organic and optical electronics devices	
MATSUDA Yoshinobu	Asso. Prof.	Production and diagnosis of industrial plasma	
MARUTA Hidenori	Asso. Prof.	Power conversion technology based on digital signal processing	
MORIYAMA Toshifumi	Asso. Prof.	Direct/inverse scattering problems and microwave remote sensing	
YANAI Takeshi	Asso. Prof.	Development and application of magnetic films	
YOKOI Yuichi	Asso. Prof.	Development of electrical machines and applied nonlinear dynamics	

Chemistry and Materials Science Program			
Faculty	Position	Research Focus	
UMAKOSHI Keisuke	Professor	Development and application of photofunctional metal complexes	
SAKUDA Eri	Asso. Prof.	Synthesis and application of photofunctional compounds	
SHIGEMITSU Yasuhiro	Professor	Theory, implementation and applications of quantum chemistry	
TANABE Shuji	Professor	Study on the preparation procedure of nano catalysts using sonochemical process	
HATAKEYAMA Tomomitsu	Professor	Structure-function analysis of carbohydrate-binding proteins	
MURAKAMI Hiroto	Professor.	Design of functional elastomers and pressure sensitive adhesives and their application	
URITA Koki	Asso. Prof.	Study on unique phenomena in nanopores	
UNNO HIDEAKI	Asso. Prof.	Structural and functional analysis of proteins	
ONODERA Gen	Asso. Prof.	Catalytic reaction for organic synthesis by use of transition-metal- complex	
KAMADA Kai	Asso. Prof.	Fabrication of inorganic-bio hybrids and their synergistic functions	
KONDO Shin-ichiro	Asso. Prof.	Theoretical study of the excited states of charged particles on the metal surface	
SAWAI Hitomi	Asso. Prof.	Structure-function analysis of membrane proteins involved in the physiological regulation of nutritional metals	
HYODO Takeo	Asso. Prof.	Design of functional ceramics and their applications	
FUKUDA Tsutomu	Asso. Prof.	Development of synthetic methodology for biologically active compounds	
YAMADA Hirotoshi	Asso. Prof.	Electrochemical phenomena at interfaces between solids	
Dao Thi Ngoc Anh	Asso. Prof.	Research development of biopolymers in nanotechnology applications	

Water and Environmental Science Program				
Faculty	Position	Research Focus		
ITAYAMA Tomoaki	Professor	Molecular ecology of aquatic ecosystem and development of water purification technology using ecological engineering for developing countries		
FUJIOKA Takahiro	Asso. Prof.	Membrane fouling research		
JIANG Yujing	Professor (Concurrent Post)	The hydraulic transport Mechanism of Fractured Rock		
TANABE Shuji	Professor (Concurrent Post)	Research development of water clarification system utilizable in developing countries, for example, Africa (i.e. Kenya) and South-East Asia		
MURAKAMI Hiroto	Professor (Concurrent Post)	Development of functional polymer membrane		
SUZUKI Seiji	Asso. Prof. (Concurrent Post)	Development of a 3-Dimensional coupled physical-ecosystem model in the lake		
SETO Shinta	Asso. Prof. (Concurrent Post)	Water resources assessment based on hydrological simulation		

#### Disclosure of Entrance Examination Score at the Graduate School of Engineering, Nagasaki University

The Graduate School will disclose the score of the October 2023 entrance examination upon request from the examinee.

1. Disclosure Validity Period

Admissions Category, etc.	Disclosure Validity Period	
2023, October Entrance for New Students	L-1-20 2022 (There) Account 0 2022 (Weil)	
(Summer Application)	July 20, 2023 (1 hu) - August 9, 2023 (wed)	

\* Applications are accepted at the counter from 9:00 a.m. to 5:00 on the workday and also are received by Post.

#### 2. Applicant

Only the examinee himself/herself.

3. How to apply

[At the counter]

Submit the "Request for Disclosure of Entrance Examination Score" form (Attachment 1) to the counter of the Graduate School of Engineering, Nagasaki University, upon presentation of the admission ticket for this graduate school.

The "Entrance Examination Score" form will be issued at the counter within 14 days from the date of receipt of the application form. (To receive it, you must present your admission ticket.)

#### [By Post] Residents in Japan (Exclude overseas residents)

The following documents must be mailed to the following address.

- 1 Request for Disclosure of Entrance Examination Score (Attachment 1)
- 2 The Admission ticket for the Graduate School (This will be returned with the "Entrance Examination" form).
- 3 Return envelope (long size type 3 envelope with your name, postal code, address, and 404 yen in postage stamps attached)

Mail to: 1-14 Bunkyo-machi, Nagasaki 852-8521

Student Affairs Section for the Graduate School of Engineering,

Nagasaki University, 1-14 Bunkyo-cho, Nagasaki 852-8521, Japan

We send the "Entrance Examination Score" form by registered mail within 14 days from the date of receipt of the documents.

#### 4. Disclosure Details

Disclose the total score of the subjects taken by the applicant.

#### (Attachment 1)

年月日 Year / Month / Day / /

#### 入試成績開示請求書

Request for Disclosure of Entrance Examination Score

工学研究科長 殿

To: Dean of the Graduate School of Engineering

請求者氏名 Applicant's name

令和5年度外国人留学生入試における成績について、下記のとおり開示を請求します。

I hereby request disclosure of the results of the 2023 entrance examinations as follows.

∋m⊥⊓	博士後期課程			
課程	Doctoral Degree			
	生産システム工学専攻			
Course	Department of Science and Thechnology			
	【令和5年10月入学・進学】 ≪2023, October Entrance for New Students≫			
入試区分				
Entrance	□一般入試 General Examinations			
Examination	□社会人入試 Examination for Those Currently Employed			
Category	□外国人留学生入試 Entrance Examinations for International Students			
又吹田 勺				
examinee				
number				
	$\top$ – (Zip Code)			
	(Address)			
請求者				
連絡先				
Contact				
Contact				
	(email)			
	(TEL) — —			