### **April 2022 admission (B Term)**

### **Graduate School of Advanced Science and Engineering**

(Master's Course)

**Division of Advanced Science and Engineering** 

# General Selection Application Guidebook

**Mathematics Program** 

**Physics Program** 

**Earth and Planetary Systems Science Program** 

**Basic Chemistry Program** 

**Applied Chemistry Program** 

**Chemical Engineering Program** 

Electrical, Systems, and Control Engineering Program

**Transportation and Environmental Systems Program** 

Civil and Environmental Engineering Program

**Informatics and Data Science Program** 

**Smart Innovation Program** 

(Applied Chemistry)

**Smart Innovation Program** 

(Electrical, Systems, and Control Engineering)

**Quantum Matter Program** 

Transdisciplinary Science and Engineering Program (Environmental and Natural Sciences)

**Transdisciplinary Science and Engineering Program** (Development Science)

November 2021



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### I Admission Policy

# 1. Admission Policy of Division of Advanced Science and Engineering of the Graduate School of Advanced Science and Engineering (Master's Course)

The Division of Advanced Science and Engineering of the Graduate School of Advanced Science and Engineering seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for the promotion of advanced and high-level academic and inter-disciplinary research;
- ② The will to be engaged in professional occupations such as researchers and engineers in areas related to natural science, engineering, and information science;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to natural science, engineering, and information science as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### 2. Admission Policy of each Program

#### [Mathematics Program]

The Mathematics Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① A strong questing mind for the mathematical truth and an ambition to make a progress in specialized and/or inter-disciplinary research of mathematics;
- ② The will to be engaged in professional occupations such as researchers, educators, and engineers in mathematics areas;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to mathematics as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Physics Program]

The Physics Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① The will to obtain state-of-the-art knowledge in areas of physics based on the point of view of researchers on a top international level;
- ② The will to obtain fundamental knowledge in contemporary physics to be engaged in researching jobs, educational jobs, and/or advanced engineering jobs related to areas of physics;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to physics as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Earth and Planetary Systems Science Program]

The Earth and Planetary Systems Science Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for acquiring advanced expertise and research techniques related to the earth and planetary systems science;
- ② The will to be engaged in professional occupations such as researchers, educators, and engineers in areas of the earth and planetary systems science;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to mathematics as well as a wide range of intelligence, in addition to a strong curiosity about not only the earth and planetary systems science but also for the other areas; and
- 4 Common sense and ethics required for a member of society.

#### [Basic Chemistry Program]

The Basic Chemistry Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① Basic knowledge and ability of comprehension, examination, and presentation regarding the basic chemistry and an ambition for taking part in the academic and/or inter-disciplinary research;
- ② The will to be engaged in professional occupations such researchers and engineers in basic chemistry areas;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to basic chemistry as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Applied Chemistry Program]

The Applied Chemistry Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for academic research and inter-disciplinary activities;
- ② The will to be engaged in professional occupations such as researchers and engineers in applied chemistry areas;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to applied chemistry as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Chemical Engineering Program]

The Chemical Engineering Program requires the student who enters this program to have not only ambitions and characteristics described below but also the basic academic skills necessary to achieve it:

- ① Ambition for academic research and cross-disciplinary activities;
- ② Will for being engaged in the profession that requires expertise such as a researcher and engineer in chemical engineering areas;
- ② Zeal for establishing the "science that enables sustainable development" from diversified points of view and solving problems in the local community and the international society, in addition to knowledge and study skills for the academic areas related to the chemical engineering as well as wide range of intelligence; and
- 4 Common sense and ethics required for an adult.

#### [Electrical, Systems, and Control Engineering Program]

The Electrical, Systems, and Control Engineering Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for academic research and inter-disciplinary activities;
- ② The will to be engaged in professional occupations such as researchers and engineers in areas related to electrical engineering and systems engineering that constitutes the core of the electrical, systems, and control engineering;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to the electrical, systems, and control engineering as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Transportation and Environmental Systems Program]

The Transportation and Environmental Systems Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for academic research and inter-disciplinary activities;
- ② The will to be engaged in professional occupations such as researchers and engineers in areas of the transportation system engineering or the environmental system engineering;

- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to the transportation system engineering and the environmental system engineering as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Civil and Environmental Engineering Program]

The Civil and Environmental Engineering Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for academic research and inter-disciplinary activities;
- ② The will to work as a high-level engineer or researcher in areas of civil and environmental engineering including disaster prevention and mitigation engineering;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to the civil and environmental engineering as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Informatics and Data Science Program]

The Informatics and Data Science Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for academic research and inter-disciplinary activities;
- ② The will to work as a high-level engineer or researcher in areas of the informatics and data science;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to the informatics and data science as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

#### [Smart Innovation Program]

The Smart Innovation Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for academic research and inter-disciplinary activities;
- ② The will to be engaged in professional occupations such as researchers and engineers in areas related to the smart material development, the smart measurement and control, and their fusion technologies;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to the smart material development, the smart measurement and control, and their fusion technologies as well as a wide range of intelligence; and
- 4) Common sense and ethics required for a member of society.

#### [Quantum Matter Program]

The Quantum Matter Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① The will to be engaged in professional occupations such as researchers and engineers in area of the basic materials science, condensed material physics, material science and engineering, and electronic engineering;
- ② An ambition for acquiring knowledge and skills related to areas mentioned above regardless of the experience and background before entering the university;
- ③ A wish to build up new businesses as well as exploring scientific facts and applying scientific findings from the academic point of view;
- ④ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to the basic materials science, condensed material physics, material science and engineering, and electronic engineering as well as a wide range of intelligence; and
- ⑤ Common sense and ethics required for a member of society.

#### [Transdisciplinary Science and Engineering Program]

The Transdisciplinary Science and Engineering Program seeks students who have the following aspirations and motivation and have the basic academic abilities necessary for it:

- ① An ambition for the promotion of advanced and high-level academic and inter-disciplinary research;
- ② Interest in a new academic area in addition to both of the nature-oriented and human-oriented thoughts;
- ③ A zeal for establishing the "science for sustainable development" from a multifaceted perspective and for solving regional and international issues by acquiring knowledge and study skills for the academic areas related to natural science, engineering, and interdisciplinary areas such as the information science and the international cooperation studies as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

# II Programs and Number of Students to be Admitted

The Division of Advanced Science and Engineering of Graduate School of Advanced Science and Engineering in Hiroshima University will accept applicants in General Selection for April 2022 admission to the Master's Course as indicated below.

[April 2022 Admission (B Term)]

Division	Program	Capacity	Admission capacity	Venue for examination	Contact Submission address for application documents
1	Program  Program  Physic Program  Earth and Planetary Systems Science Program  Basic Chemistry Program  Applied Chemistry Program  Chemical Engineering Program  Electrical, Systems, and Control Engineering Program  Transportation and Environmental Systems Program  Civil and Environmental Engineering Program  Informatics and Data Science Program  Smart Innovation Program (Applied Chemistry)  Smart Innovation Program (Electrical, Systems, and Control Engineering)  Quantum Matter Program  Transdisciplinary Science and Engineering Program (Environmental and Natural Sciences)	Capacity 449			Support Office for the fields of Science 739-8526 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7309, 4468  Support Office for the fields of Engineering 〒739-8527 1-4-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7518  Support Office for the fields of Science (AdSM) 739-8530 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7008, 7009  Support Office for the fields of Integrated Arts and Sciences 739-8521 1-7-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-6316  Support Office for the fields of Support Office for the fields of Integrated Arts and Sciences
	Engineering Program (Environmental and Natural				Tel: 082-424-7008, 7009  Support Office for the fields Integrated Arts and Sciences 739-8521 1-7-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-6316

#### (Caution)

• The selection for April 2022 admission will be suspended for Mechanical Engineering Program and Architecture Program.

- The specific venue of the entrance examination will be notified after the application.
- Consult with the faculty who is expected to be your academic supervisor about your research theme before applying.

For the information regarding faculties of the Graduate School of Advanced Science and Engineering, refer to the following website.

URL https://www.hiroshima-u.ac.jp/en/adse/research

#### **III** Outline of Entrance Examination

#### 1. Schedule of the Entrance Examination

(1) Mathematics Program / Physics Program / Earth and Planetary Systems Science Program / Basic

Chemistry Program / Quantum Matter Program

Application period	Date of the entrance examination	Examination	Examination result
Application period	Date of the chiralice examination	subject	announcement
Tuesday, January 4, 2022 – Tuesday, January 11, 2022	9:00 -, Friday, January 28, 2022	Written examination Oral examination	Planned to be 12:00 -, Wednesday, February 16, 2022
	(Preliminary day: Saturday, January 29, 2022)		-, -

(2) Applied Chemistry Program / Chemical Engineering Program / Electrical, Systems, and Control Engineering Program / Transportation and Environmental Systems Program / Civil and Environmental Engineering Program / Informatics and Data Science Program / Smart Innovation Program (Applied Chemistry) / Smart Innovation Program(Electrical, Systems, and Control Engineering) / Transdisciplinary Science and Engineering Program (Environmental and Natural Sciences) / Transdisciplinary Science and Engineering Program (Development Science)

Examination Examination result Application period Date of the entrance examination subject announcement 9:00 -, Thursday, January 27, Written 2022 examination Planned to be 12:00 -, Tuesday, January 4, 2022 – 9:00 -, Friday, January 28, Wednesday, February Oral Tuesday, January 11, 2022 2022 16, 2022 examination (Preliminary day: Saturday, January 29, 2022)

#### (Caution)

For both (1) and (2) above, in the difficult case of carrying out the entrance examination because of bad weather, epidemic, etc., the entrance examination may be held on the preliminary day. Postponement of the examination, extension of the starting time of the examination and so forth will be notified on the website of the Graduate School of Advanced Science and Engineering (https://www.hiroshima-u.ac.jp/en/adse). Please keep yourself updated.

#### 2. Application Eligibility

Refer to the section "IV Application Eligibility" (page 12).

#### 3. Application Documents and Selection Process

Refer to the page for each Program listed in the section "V Application Documents and Selection Process" (page 15) and confirm the application documents and selection process (examination subject, basic policy, and evaluation criteria).

#### 4. Application Procedure

- (1) Your application will be accepted via internet during the application period.

  Refer to the procedure described in the section "VI Application Procedure" (page 33).
- (2) Deliver or mail your application documents specified by each Program to the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8).

The Support Office is open from 8:30 to 17:00 during the application period for the applicant who delivers the application documents.

In the case of submission via mail, the documents must be sent in a registered mail and reach us no

later than 17:00, Tuesday, January 11. The documents received after this time shall be accepted only when it is postmarked no later than Thursday, January 6.

#### 5. Result Announcement

campus.

We will send the acceptance certificate and the admission guide to the successful applicants by mail. An announcement will also be made on the website of the Graduate School of Advanced Science and Engineering, Hiroshima University (https://www.hiroshima-u.ac.jp/en/adse). The announcement on the website is made as part of information provision and does NOT grant admission officially in any way. Only mailing of the acceptance certificate should be regarded as an official announcement of admission. Please also note that an announcement will not be made through posting on the bulletin board on

(We do not answer any inquiry via phone.)

# IV Application Eligibility

#### 1. Application Eligibility

Those who meet or are expected to meet by March 31, 2022 either of the following criteria.

- (1) A person who graduated from a university or college.
- (2) A person who earned a bachelor's degree from the National Institution for Academic Degrees and Quality Enhancement of Higher Education according to the provision of Section 7 of Article 104 of School Education Act (Act No. 26 of 1947), or is expected to be conferred (Hereinafter referred to as "Expected graduate").
- (3) A person who completed a 16-year school education course in a country other than Japan.
- (4) A person who studied the class subjects provided by a foreign school as a correspondence course in Japan and, as a result, completed the 16-year school education course in the concerned foreign country.
- (5) A person who completed an education course in Japan provided by a foreign education institute which is established as an undergraduate course (limited to that for which the person who completed the course is regarded as having completed the 16-year school education course in the concerned foreign country) within the school education system in the concerned foreign country and has been separately specified by the Minister of Education, Culture, Sports, Science and Technology (MEXT).
- (6) A person who earned a degree equivalent to a bachelor's degree after completing a course of which the term is 3 years or longer (including a person who studied the class subjects provided by a foreign school as a correspondence course in Japan and completed the concerned education course; and a person who completed the education course in Japan provided by a foreign education institute which is established within the school education system in the concerned foreign country and is specified in the item (5) above) in a university or the other school in a foreign country, which has been evaluated for the comprehensive conditions of the education and research activities by a person who is authorized by the government or the concerned institutions of the concerned foreign country, or has been separately specified as equivalent by MEXT.
- (7) A person who completed, after the date specified by MEXT, the specialized course of a specialized training college (limited to that meets the criteria specified by MEXT, such as its term is 4 years or longer) which is separately specified by MEXT.
- (8) A person who has been specified by MEXT (as defined in the Notification of Ministry of Education, No. 5 of 1953: e.g. a person who graduated from a university established under the University Ordinance in 1886 or a college established under a law stipulated for the concerned government agency regarding its establishment such as the act for establishment, order for organization, and individual law for the Incorporated Administrative Agencies).
- (9) A person who wishes to transfer to the Graduate School after once entering other graduate school according to Section 2 of Article 102 of the Act and has been approved by the Graduate School as having academic abilities required for the education in the Graduate School.
- (10) A person who has been approved by the Graduate School as having academic abilities equivalent or superior to those of bachelor degree holders according to the result of the examination that was separately conducted, and is 22 years or older.

(Caution ) The applicant who falls under either of the criteria (9) or (10) above is subject to a preliminary evaluation of the application eligibility (refer to the "2. Preliminary Evaluation").

#### 2. Preliminary Evaluation

(1) Preliminary Evaluation

The applicant who falls under either of the application eligibility (9) or (10) above must follow the procedures below and pass a preliminary evaluation of the application eligibility.

a) Application Period

Monday, December 6, 2021 - 17:00, Friday, December 10, 2021

(The application documents must be submitted in a registered mail with indication of the phrase "Application Form for Preliminary Evaluation is enclosed" in red on the front surface of the envelope.)

b) Application Documents

[The applicant who falls under the application eligibility (9) above]

Download the specified forms (a, b and c) from the website of the Graduate School of

Advanced Science and Engineering.

	Document name	Note
a	Application Form for Preliminary Evaluation	Use the specified form to prepare.
b	Record of Application Eligibility Evaluation	Use the specified form to prepare.
c	Reasons for Application	Use the specified form to prepare.
d	Research plan	Must use A4 sized paper; free format. Attach a list of research achievements, if any.
e	Academic transcript	Issued by the president of the university or the dean of the faculty from which the applicant has graduated.  The certificate must be the original or the certified photocopy.  The uncertified photocopy will not be accepted.
f	Certificate of enrollment or graduation from a graduate school	Issued by the president of the university or the dean of the graduate school the applicant attended or is attending.  The certificate must be the original or the certified photocopy.  The uncertified photocopy will not be accepted.
g	Return envelope	Use a standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 374-yen stamp to the front.

(Caution) Attach the English or Japanese translation to the application documents written in the original language other than English or Japanese.

#### [The applicant who falls under the application eligibility(10) above]

Download the specified forms (a, b, c and g) from the website of the Graduate School of

Advanced Science and Engineering.

a I	Application Form for		
	Preliminary Evaluation	Use the specified form to prepare.	
	Record of Application Eligibility Evaluation	Use the specified form to prepare.	
c I	Reasons for Application	Use the specified form to prepare.	
d I	Research plan	Use A4 sized sheets; Any format is acceptable. Attach a list of research achievements, if any.	
e A	Academic transcript	Issued by the president of the university the applicant attended or is attending.  The certificate must be the original or the certified photocopy.  The uncertified photocopy will not be accepted.	
f (	Certificate of graduation		
g (	Certificate of Past	http://www.chsi.com.cn/xlcx/bgys.jsp  *Only for the applicants who conducted research as a research	

	Research	student or a researcher for over 1 year at a research institute (university or a joint use facility) either in Japan or a foreign country. Use the specified form to prepare.
h	Return envelope	Use a standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 374-yen stamp to the front.

(Caution) Attach the English or Japanese translation to the application documents written in the original language other than English or Japanese.

- (2) The results of the preliminary evaluation will be notified to the applicants by Monday, December 27, 2021.
- (3) The applicant who has successfully passed a preliminary evaluation must submit the application documents (except the ones which have been already submitted in a preliminary evaluation) specified for each Program. Refer to the respective pageslisted in the section "V Application Documents and Selection Process" (page 15).

# **V** Application Documents and Selection Process

Note that the application documents and selection process vary for each program.

For the details, refer to the respective pages listed in the table below.

Program	Category	Page(s) to be referred
Mathematics Program		
Physics Program		
Earth and Planetary Systems Science Program	Science Programs	Pages 16 to 18
Basic Chemistry Program		
Applied Chemistry Program		
Chemical Engineering Program		
Electrical, Systems, and Control Engineering Program		Pages 19 to 23
Transportation and Environmental Systems Program	Engineering Programs &	
Civil and Environmental Engineering Program	Informatics and Data Science Program	
Informatics and Data Science Program		
Smart Innovation Program (Applied Chemistry)	-	
Smart Innovation Program (Electrical, Systems, and Control Engineering)		
Quantum Matter Program		Pages 24 to 26
Transdisciplinary Science and Engineering (Environmental and Natural Sciences)	g Program	Pages 27 to 29
Transdisciplinary Science and Engineering (Development Science)	g Program	Pages 30 to 32

# Science Programs

(Mathematics/Physics/Earth and Planetary Systems Science/Basic Chemistry)

#### 1. Application Documents

After making the application via internet, submit all the documents listed below at once during the application period to the Support Office indicated in the section "II Programs and Number of Students to

be Admitted " (page 8).

No	Document name	Note	
1	Academic transcript	Issued by the president of the university or the dean of the faculty the applicantattended or is attending.	
2	Certificate of graduation or certificate of expected graduation	Issued by the president of the university or the dean of the faculty the applicantattended or is attending.  The applicant who graduated or is expected to graduate from a university in China (excluding that in Taiwan, Hong Kong, and Macao) is required to submit the following documents:  Graduate  Prospective Graduate  *教育部学历证书电子注册备案表*  *毕业证书  *学士(硕士)学位证书  * Obtain the document for which the Web authentication will be valid as of Tuesday, January 25, 2022 via the authentication system of the Ministry Education of China (中国高等教育学历证书查询).  http://www.chsi.com.cn/xlcx/bgys.jsp	
3	Certificate of expected application for the conferment of a bachelor's degree or certificate of a bachelor's degree	<ul> <li>Only for the applicant who falls under the application eligibility(2).</li> <li>Expected graduate: Certificate of expected application for the conferment of a bachelor's degree issued by the president of a college of technology.</li> <li>Bachelor's degree holder: Certificate of a bachelor's degree issued by the National Institution for Academic Degrees and Quality Enhancement of Higher Education.</li> </ul>	
4	Certificate of English -language proficiency	Only for the applicant for Earth and Planetary Systems Science Program and Basic Chemistry Program.  Submit the original score certificate of TOEIC® public test, TOEIC®-IP (including College TOEIC®), TOEFL®-CBT, TOEFL®-PBT, or TOEFL®-iBT. If you want your certificate to be returned, please inform us in advance at the time of application.	
5	Return envelope	Use a standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 94-yen stamp to the front (for sending the Examination Card).	

(Caution 1) Attach the English or Japanese translation to the application documents written in the original language other than English or Japanese.

(Caution 2) The applicant who has successfully passed a preliminary evaluation of application eligibility need not submit the document No. 1 and 2 above.

#### 2. Selection Process

- (1) Basic Policy
  - OMathematics Program

The written examination (specialized subject) and the oral examination are given to evaluate basic knowledge, the ability to understand, think and self-express, and other abilities while the written examination (foreign-language proficiency) to evaluate the language proficiency required for the Program. Foreign applicants are required to consult with the Support Office in advance about selection process.

#### OPhysics Program

The written examination (specialized subject) and the oral examination are given to evaluate basic knowledge, the ability to understand, think and self-express, and other abilities.

#### OEarth and Planetary Systems Science Program

The written examination (specialized subject) and the oral examination are given to evaluate basic knowledge, the ability to understand, think and self-express, and other abilities.

#### OBasic Chemistry Program

The written examination (specialized subject) and the oral examination are given to evaluate basic knowledge, the ability to understand, think and self-express, and other abilities.

#### (2) Evaluation Criteria

#### OMathematics Program

The results of the written examinations (specialized subject and foreign-language proficiency) and the oral examination and the academic transcript will be comprehensively evaluated.

[Written examination] Specialized subject (max. 400 points); foreign-language proficiency (max. 100 points)

[Oral examination] Scale of 1 to 4 (A, B, C, D)

[Academic transcript] Scale of 1 to 3 (A, B, C)

#### OPhysics Program

The results of the written examination, oral examination and the academic transcript will be comprehensively evaluated.

[Written examination] Scale of 1 to 4 (A, B, C, D)

[Oral examination] Scale of 1 to 4 (A, B, C, D)

[Academic transcript] Scale of 1 to 3 (A, B, C)

#### OEarth and Planetary Systems Science Program

The results of the written examination, foreign-language proficiency, oral examination, and the academic transcript will be comprehensively evaluated.

[Written examination] Scale of 1 to 4 (A, B, C, D)

[Foreign-language proficiency] TOEIC® or TOEFL® scores converted to max. 200 points

[Oral examination] Scale of 1 to 4 (A, B, C, D)

[Academic transcript] Scale of 1 to 3 (A, B, C)

#### OBasic Chemistry Program

The results of the written examination, foreign-language proficiency, oral examination and the academic transcript will be comprehensively evaluated.

[Written examination] Scale of 1 to 4 (A, B, C, D)

[Foreign-language proficiency] TOEIC® or TOEFL® scores converted to max. 100 points

[Oral examination] Scale of 1 to 4 (A, B, C, D)

[Academic transcript] Scale of 1 to 3 (A, B, C)

#### (3) Written Examination and Oral Examination Schedule

Program name	Written examination		Oral examination
Mathematics	Friday,	Specialized subject 9:00 - 12:00 Foreign-language proficiency 13:30 - 14:30	15:00 -, Friday,
Program	January 28		January 28

(Caution 1) The written examination in foreign-language proficiency must be English.

(Caution 2) Foreign applicants are required to consult with the Support Office in advance about the examination language for the written examination in specialized subject.

- (Caution 3) For contents of the written examination in specialized subject and the use of a dictionary in the written examination in foreign-language proficiency, refer to the "(4) Contents of the Written Examination in Specialized Subject and the Use of a Dictionary in the Written Examination in Foreign-language Proficiency."
- (Caution 4) The details of the oral examination will be notified when sending the examination card and on the examination day.

Program name	Written examination and oral examination
Physics Program	
Earth and Planetary Systems Science	0.00 Thursday January 20
Program	9:00-, Thursday, January 28
Basic Chemistry Program	

- (Caution 1) The details of the written examination in specialized subject and the oral examination will be notified when sending the examination card and on the examination day.
- (Caution 2) The applicants for Physics Program are required to consult with the faculty who is expected to be your academic supervisor in advance.
- (Caution 3) For contents of the written examination in specialized subject, refer to the "(4) Contents of Written Examination in Specialized Subject and Use of Dictionary in Written Examination in Foreign-language Proficiency."

(4) Contents of Written Examination in Specialized Subject and Use of Dictionary in Written Examination in Foreign-language Proficiency

Program name	Contents
Mathematics Program	Basic questions concerning mathematics The use of a dictionary will not be allowed during the written examination in foreign-language proficiency
Physics Program	Questions concerning dynamics, electromagnetics, quantum dynamics, and thermal / statistical dynamics
Earth and Planetary Systems Science Program	Basic questions concerning earth and planetary systems science
Basic Chemistry Program	Basic questions concerning chemistry

# **Engineering Programs & Informatics and Data Science Program**

(Applied Chemistry / Chemical Engineering / Electrical, Systems, and Control Engineering / Transportation and Environmental Systems / Civil and Environmental Engineering / Informatics and Data Science / Smart Innovation (Applied Chemistry) / Smart Innovation (Electrical, Systems, and Control Engineering) )

#### 1. Application Documents

After making the application via internet, submit all the documents listed below at once during the application period to the Support Office indicated in the "II Programs and Number of Students to be Admitted" (page 8). Download the specified forms (4, 7, 8 and 10) from the website of the Graduate School of Advanced Science and Engineering.

No	Document name	Not	e	
1	Academic transcript	Issued by the president of the unive applicant attended or is attending The applicant who graduated or is advanced course in a college of tech transcript for both the regular and at The certificate must be the original uncertified photocopy will not be according to the control of the contro	s expected to graduate from the mology must submit the academic dvanced course.	
2	Certificate of graduation or certificate of expected graduation	Issued by the president of the university or the dean of the faculty the applicantattended or is attending.  If the certificate does not indicate that you were conferred a bachelor's degree, submit another document that proves it.  The certificate must be the original or the certified photocopy. The uncertified photocopy will not be accepted.  The applicant who graduated or is expected to graduate from a university in China (excluding that in Taiwan, Hong Kong, and Macao) is required to submit the following documents:  Graduate  Prospective Graduate  * 教育部学历证书电子注册备案表*  * 學业证书  * 学士(硕士)学位证书  * Obtain the document for which the Web authentication will be valid as of Tuesday, January 25, 2022 via the authentication system of the Ministry Education of China (中国高等教育学历证书查询).		
3	Certificate of expected application for the conferment of a bachelor's degree or certificate of a bachelor's degree	http://www.chsi.com.cn/xlcx/bgys.jsp  Only for the applicant who falls under the application eligibility (2)  • Expected graduate: Certificate of expected application for the conferment of a bachelor's degree issued by the president of a college of technology.  • Bachelor's degree holder: Certificate of a bachelor's degree issued by the National Institution for Academic Degrees and Quality Enhancement of Higher Education.		
4	List for the Oral Examination	Use the specified form to prepare.		
5	Score certificate of English-language proficiency	Submit the original score certific examinations which was held in the time of application. (The submitted to the applicant after confirmation) standard for the scores, application	he period from May 2018 to the I score certificate will be returned ). Although there is no minimum	

		certificate will not be accepted. The applicant who does not have their score certificate at hand at the time of application is required to consult with the Support Office in advance.  • TOEIC® Public Test
		· TOEIC®-IP (including College TOEIC®)
		· TOEFL®-PBT
		· TOEFL®- ITP
		· TOEFL®-iBT
		• IELTS Academic
		Cambridge English Qualifications
6	Score certificate of English-language proficiency (copy)	Submit a copy of the document No. 5 "Score certificate of English-language proficiency" (in A4 sized paper)
7	Registration of selected subject for Applicants of Civil and Environmental Engineering Program	Only for the applicant for Civil and Environmental Engineering Program. Use the specified form to prepare.
8	Registration of Selected Subject for Applicants of Smart Innovation Program	Only for the applicant for Smart Innovation Program Use the specified form to prepare.
9	Copy of residence card	Only for foreign applicants residing in Japan. If your address is written on the back side of the card, make a two-sided copy.
10	Personal History	Only for the applicant who has graduated from a foreign university. Use the specified form to prepare.
11	Return envelope	Use a standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 94-yen stamp to the front (for sending the Examination Card).

(Caution 1) Attach the English or Japanese translation to the application documents written in the original language other than English or Japanese.

(Caution 2) The applicant who has successfully passed a preliminary evaluation of application eligibility need not submit the document No. 1, 2 and 10 above.

#### 2. Selection Process

#### (1) Basic Policy

Academic abilities (based on the written examination and the oral examination), English (based on Score certificate of English-language proficiency; only for Informatics and Data Science Program.), and the academic transcript will be comprehensively evaluated.

#### (2) Evaluation Criteria

Applied Chemistry Program, Chemical Engineering Program, Electrical, Systems, and Control Engineering Program, Transportation and Environmental Systems Program, Civil and Environmental Engineering Program, Smart Innovation Program (Applied Chemistry), Smart Innovation Program (Electrical, Systems, and Control Engineering)

[Written examination] Specialized subject (max. 200 points)

Basic academic abilities, thinking abilities, understanding and creativity will be evaluated.

[Oral examination] Max. 100 points [Academic transcript] Scale of 1 to 4

OInformatics and Data Science Program

[Written examination] Specialized subject (max. 600 points)

Basic academic abilities, thinking abilities, understanding and creativity will be evaluated.

[Oral examination] Motivation, aptitude for the desired subject of study and basic academic abilities will be evaluated in scale of 1 to 3.

[English] max. 100 points (Converted from Score certificate of English-language proficiency)

[Academic transcript] Scale of 1 to 4

#### (3) Written Examination and Oral Examination Schedule

Program name	Writt	en examinatio	n	Oral examination
Applied Chemistry	Thursday, January 27	Specialized subject I	9:00-12:00	
Program	Thursday, January 27	Specialized subject II	13:30-15:00	
Chemical Engineering	Thursday, January 27	Specialized subject I	9:00-12:00	
Program	Thursday, January 27	Specialized subject II	13:30-15:00	
Electrical, Systems, and Control Engineering	Thursday, January 27	Specialized subject I	9:00~12:00	
Program	Thursday, January 27	Specialized subject II	13:30~14:30	
Transportation and Environmental Systems	Thursday, January 27	Specialized subject I	9:00-12:00	
Program Program		Specialized subject II	13:30-15:00	9:00-, Friday,
Civil and Environmental	Thursday, January 27	Specialized subject I	9:00~11:30	January 28
Engineering Program		Specialized subject II	13:30~15:30	
Informatics and Data	TI 1 I 27	Specialized subject I	9:00~11:00	
Science Program	Thursday, January 27	Specialized subject II	13:30~15:30	
Smart Innovation Program	Thursday, January 27	Specialized subject I	9:00-12:00	
(Applied Chemistry)	Thursday, January 27	Specialized subject II	13:30-15:00	
Smart Innovation Program	Thursday, January 27	Specialized subject I	9:00~12:00	
(Electrical, Systems, and Control Engineering)	Thursday, January 27	Specialized subject II	13:30~14:30	

(Caution 1) For the contents of the written examination in specialized subject, refer to the table below.

(Caution 2) The details of the oral examination will be notified when sending the examination card and on the examination day.

#### (4) Contents of Written Examination

Program name	Subject name	Category	Contents
Applied Chemistry	Applied	Written examination (Specialized subject I)	Organic and Polymer Chemistry, Inorganic and Analycical Chemistry, Physical Chemistry
Program	Chemistry	Written examination (Specialized subject II)	Essay is given to evaluate your knowledge and problem-solving skills in the area of Applied Chemistry.

		Oral examination (Interview)	Your motivation, aptitude for the desired subject of study, and understanding in the desired specialized field will be evaluated.
Chemical	al	Written examination (Specialized subject I)	Select and answer three questions from the following six subjects:  1. Mass and Heat Balance, 2. Fluids Engineering, 3. Mass Transfer, 4. Heat Transfer, 5. Physical Chemistry, 6. Chemical Reaction Engineering.  Some subjects may not be included in the test.
Engineering Program	Chemical Engineering	Written examination (Specialized subject II)	Essay is given to evaluate your knowledge and problem-solving skills in the area of on Chemical Engineering.
		Oral examination (Interview)	Your motivation, aptitude for the desired subject of study, and understanding in the desired specialized field will be evaluated.
Electrical,	Electrical	Written examination (Specialized subject I)	Select and answer three questions from the following subjects: 1. Linear Algebra, 2. Calculus, 3. Electric Circuit Theory, 4. Linear Programming.
Systems, and Control Engineering Program	Electrical, Systems, and Control Engineering	Written examination (Specialized subject II)	Essay is given to evaluate your knowledge and problem-solving skills in the area of Electrical, Systems, and Control Engineering.
		Oral examination (Interview)	Requested to present your past research and a future research plan, and answer questions in the style of interview
Transportation and Environmental Systems	Fnyironmental	Written examination (Specialized subject I) Written examination (Specialized	Mathematics (Linear Algebra, Calculus, Differential Equation, Vector Analysis) Dynamics (Particle and Mass System Dynamics, Rigid-Body Dynamics, Material Mechanics)  Essay is given to evaluate your knowledge and problem-solving skills in the area of Transportation and
Program		subject II) Oral examination (Interview)	Environmental Systems  Your motivation, aptitude for the desired subject of study, and understanding in the desired specialized field will be evaluated.
Civil and Environmental Engineering Program	Civil and Environmental Engineering	Written examination (Specialized subject I)	<ul> <li>Select and answer one of the following six subjects (You must select and register the subject at the time of application)</li> <li>Structural Engineering (Strength of Material, Structural Mechanics, Energy Principles)</li> <li>Concrete Engineering (Materials for Concrete, Properties of Fresh and Hardened Concrete, Concrete Structure)</li> <li>Geotechnical Engineering (Soil Mechanics, Design of Earth Structures, Geotechnical Disaster Mitigation)</li> <li>Sanitary and Environmental Engineering (Water Chemistry, Water Supply and Sewerage Systems, Microbial Ecology, Kinetics)</li> <li>Hydraulics (Conservation Laws of Momentum and Energy, Laminar and Turbulent Flows, Flows in Open Channels and Conduits)</li> <li>Infrastructure and Transportation Planning (City Planning and Transportation Demand Forecasting)</li> </ul>

		Written examination (Specialized subject II)	Essay A: your knowledge and problem-solving skills in the area of Civil and Environmental Engineering will be evaluated.  Essay B: Review of previous studies regarding a desired research topic  A list of reviewed papers must be submitted at the examination. The list must follow the format specified in the following URL.  https://www.hiroshima-u.ac.jp/system/files/177238/references.doc
		Oral examination (Interview)	Your motivation and capability for the desired subject of study, as well as your understanding in the desired specialized field will be evaluated.
		Written examination (Specialized subject I)	Answer four questions about the following subjects: 1. Linear Algebra, 2. Advanced Calculus and Ordinary Differential Equations, 3. Probability and Statistics, 4. Discrete Mathematics.
Informatics and Data Science Program	Informatics and Data Science	Written examination (Specialized subject II)	Select and answer three questions from the following subjects:  1. Information Theory, 2. Algorithms and Data Structures, 3. Programming Language, 4. Computer Architecture and Digital Circuits, 5. Statistical Estimation and Testing, 6. Machine Learning.  Requested to answer the additional problem to evaluate your knowledge and problem solving skills in the area of Informatics and Data Science.
		Oral examination (Interview)	Your motivation, aptitude for the desired subject of study, and basic academic abilities will be evaluated.
Smart		Written examination (Specialized subject I)	Organic and Polymer Chemistry, Inorganic and Analycical Chemistry, Physical Chemistry
Innovation Program (Applied Chemistry)	m Applied Chemistry	Written examination (Specialized subject II)	Essay is given to evaluate your knowledge and problem-solving skills in the area of Applied Chemistry.
		Oral examination (Interview)	Your motivation, aptitude for the desired subject of study, and understanding in the desired specialized field will be evaluated.
Smart Innovation	ation am Electrical, Systems, and Control Engineering	Written examination (Specialized subject I)	Select and answer three questions from the following subjects: 1. Linear Algebra, 2. Calculus, 3. Electric Circuit Theory, 4. Linear Programming.
Program (Electrical, Systems, and Control		Written examination (Specialized subject II)	Essay is given to evaluate your knowledge and problem solving skills in the area of Electrical, Systems, and Control Engineering.
Engineering)		Oral examination (Interview)	Requested to present your past research and a future research plan, and answer questions in the style of interview

# Quantum Matter Program

#### 1. The Supervisors who will Accept Students

The supervisors who will accept students in this entrance examination are as follows.

All applicants are required to be given guidance by his or her preferred supervisor prior to application.

ONIMARU Takahiro, KURIKI Masao, SHIMAHARA Hiroshi, SUZUKI Takashi, NOHARA Minoru, MATSUMURA Takeshi, ISHII Isao, UMEO Kazunori, TAKAHASHI Tohru, TADA Yasuhiro, TANAKA Arata, HIGUCHI Katsuhiko, MIYAOKA Hiroki, YAGI Ryuta, IINUMA Masataka, SHIMURA Yasuyuki, HIGA Nonoka, LIPTAK Zachary John

IWASAKA Masakazu, KADOYA Yutaka, KAMEDA Suguru, KUROKI Shin-Ichiro, TERAMOTO Akinobu, FUJISHIMA Minoru, Holger F. HOFMANN, AMAKAWA Shuhei, KOIDE Tetsushi, SASAKI Mamoru, SUZUKI Hitoshi, NAKAJIMA Anri, NISHIDA Munehiro, HANAFUSA Hiroaki, MIYAKE Masataka, YOSHIDA Takeshi, SAKAUE Hiroyuki

#### 2. Application Documents

After making the application via internet, submit all the documents listed below at once during the application period to the address indicated in the "Submission Address for Application Documents" (page 8). Download the specified forms (7) from the web site of the Graduate School of Advanced Science and Engineering.

No	Document Name	Note		
1	Academic transcript	Issued by the president of the univapplicantattended or is attending.	ersity or the dean of the faculty the	
2	Certificate of graduation or certificate of expected graduation	Issued by the president of the univapplicant attended or is attending If you are a graduate, make sinformation about your degree. The applicant who graduated or university in China (excluding to Macao) is required to submit the Graduate  ·教育部学历证书电子注册备案表*  ·毕业证书  ·学士(硕士)学位证书  * Obtain the document for which the as of Tuesday, January 25, 2022	Prospective Graduate ·教育部学籍在线验证报告* ·毕业预定证书  ne Web authentication will be valid via the authentication system of (中国高等教育学历证书查询).	
3	Certificate of expected application for the conferment of a bachelor's degree or certificate of a bachelor's degree	<ul> <li>Only for the applicant who falls under the application eligibility(2).</li> <li>Expected graduate: Certificate of expected application for the conferment of a bachelor's degree issued by the president of a college of technology.</li> <li>Bachelor's degree holder: Certificate of a bachelor's degree issued by the National Institution for Academic Degrees and Quality Enhancement of Higher Education.</li> </ul>		
4	Certificate of English language proficiency	Submit the original score certificate of either of the following		

<sup>\*</sup> The applicant must contact in advance the Support Office for the fields of Science (AdSM) (page 8) when his or her preferred supervisor is in charge of plural programs and takes charge of the Transdisciplinary Science and Engineering Program, including Physics Field of this program. (Please see the Lists of Academic Supervisors (Quantum Matter Program).)

		· TOEIC® Public Test
		· TOEIC®-IP
		· TOEFL®-PBT
		· TOEFL®-iBT
		· TOEFL®- ITP
		· IELTS®
		· Cambridge English Qualifications
5	Copy of residence card	Only for foreign applicants residing in Japan.  If your address is written on the back side of the card, make a two-sided copy.
6	Return envelope	Use standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 94-yen stamp to the front (for sending the Examination Card).
7	Registration of selected subject for Applicants of Quantum Matter Program	Use the specified form to prepare.

(Caution 1) Attach the English or Japanese translation to the application documents written in the original language other than English or Japanese.

(Caution 2) The applicant who has successfully passed a preliminary evaluation of application eligibility need not submit the document No. 1 and 2 above.

#### (Caution 3)

- ① Quantum Matter Program will use the scores of either of the certificates listed above in place of a written foreign language (English) examination.
- ② The applicant is required to submit, along with other required documents, the original score certificate of either of these examinations. The score certificate is not allowed to be replaced once it has been submitted. The submitted score certificate will be returned to the applicant after confirmation.
- ③ The applicant who is unable to submit the original score certificate during application period must submit, along with other required documents, a document (no specified form) stating that they will submit their score certificate of English language proficiency later. Subsequently the applicant must submit the score certificate by 13:00, Friday, January 28, 2022 to the Student Support Office, Graduate School of Science (1st floor of the Advanced Sciences of Matter).
- ④ The applicant who wishes to send their score certificate of TOEIC®-IP collectively conducted for all Hiroshima University undergraduate students and does not have their score certificate at hand must contact the Student Support Office, Graduate School of Science (AdSM).
- ⑤ The applicant who does not submit their score certificate of English language proficiency will receive 0 (zero) points for a written foreign language (English) test.

#### 3. Selection Process

#### (1) Basic Policy

Academic abilities (based on the written examination and the oral examination), English (based on the certificate of English language proficiency), and the submitted documents (e.g. academic transcript) will be comprehensively evaluated.

#### (2) Evaluation Criteria

[Written Examination] Basic subject (max. 100 points)

[Oral Examination] Specialized subject (max. 400 points);

Common examination (Three-level evaluation (A, B, C) is performed.)

[English] Max. 100 points (converted from the score certificate of English language proficiency) [Submitted documents] Three-level evaluation (A, B, C) is performed.

#### (3) Examination Schedule

Friday, January 28		
Written examination	9:00-10:30	
Oral Examination	11:00-	

(Caution ) The details of the oral examination will be notified when sending the examination card and on the examination day.

(4) Contents of Written Examination and Oral examination

Field **	Category	Examination Subjects		
	Written	[Basic subject]		
	examination	Mathematics		
		[Specialized subject] (oral assessment)		
		Classical Mechanics		
Physics		Electromagnetism		
Filysics	Oral examination	· Quantum Mechanics		
	Oral Chailination	Statistical Thermodynamics		
		[Common examination]		
		Motivation, aptitude for the desired subject of study and basic		
		academic abilities will be evaluated.		
	Written	[Basic subject]		
	examination	Mathematics		
		[Specialized subject] (oral assessment)		
		Electromagnetism		
Electronic		Electronic Circuits		
Engineering	Oral examination	Semiconductor Engineering		
	Of all Challing at 1011	Quantum Mechanics		
		[Common examination]		
		Motivation, aptitude for the desired subject of study and basic academic abilities will be evaluated.		

<sup>\*</sup> Please choose and specify either Physics Field or Electronic Engineering Field in the form of "Registration of selected subject for Applicants of Quantum Matter Program".

# Transdisciplinary Science and Engineering Program (Environmental and Natural Sciences)

#### 1. Application Documents

After making the application via internet, submit all the documents listed below at once during the application period to the address indicated in the "Submission Address for Application Documents" (page 8). Download the specified forms (1, 5, 6 and 7) from the web site of the Graduate School of Advanced Science and Engineering.

No	Document Name	Note	
1	Personal History	Use the specified form to prepare.	
2	Academic transcripts	Issued by the president of the university or the dean of the faculty the applicantattended or is attending.  The certificate must be the original or the certified photocopy. The uncertified photocopy will not be accepted.	
3	Certificate of graduation or certificate of expected graduation	Issued by the president of the university or the dean of the faculty the applicantattended or is attending.  The certificate must be the original or the certified photocopy. The uncertified photocopy will not be accepted.  If you are a graduate, make sure that the certificate includes information about your degree.  The applicant who graduated or is expected to graduate from a university in China (excluding that in Taiwan, Hong Kong, and Macao) is required to submit the following documents:  Graduate  ·教育部学历证书电子注册备案表*  ·毕业证书  ·学士(硕士)学位证书  * Obtain the document for which the Web authentication will be valid as of Tuesday, January 25, 2022 via the authentication system of the Ministry Education of China (中国高等教育学历证书查询).  http://www.chsi.com.cn/xlcx/bgys.jsp	
4	Certificate of expected application for the conferment of a bachelor's degree or certificate of a bachelor's degree	<ul> <li>Only for the applicant who falls under theapplication eligibility (2)</li> <li>Expected graduate: Certificate of expected application for the conferment of a bachelor's degree issued by the president of a college of technology.</li> <li>Bachelor's degree holder: Certificate of a bachelor's degree issued by the National Institution for Academic Degrees and Quality Enhancement of Higher Education.</li> </ul>	
5	Copy of graduation thesis	Submit a copy of your graduation thesis.  The applicant who is preparing the graduation thesis for graduation is required to submit an abstract (with a length of approximately 2,000 characters) in the specified form.  The applicant who is unable to submit either the copy of graduation thesis or the abstract must submit any published thesis which proves your research ability.  For the applicant who is unbale to submit either of the above documents, refer to the document No. 6.	
6	Research plan	Submit the summary of your past research and future research plan for your master's course (with a length of approximately 2,000 characters) in the specified from.  The applicant who is unable to submit the document No. 5 must indicate its reason.	
7	Common Issue	Use the specified form to prepare. Pick up any important issue(s) in contemporary society and explain how you expand interdisciplinary	

		and comprehensive research to solve it, in relation to your research plan submitted in the document No. 6, in a way that is easy to understand for those who are not familiar with your specialized field (with a length of approximately 1,500 characters).  Submit the original score certificate of either of 1 – 4 English language ability examinations below or the original score certificate of Japanese-Language Proficiency Test. The printout from internet is not available. The submitted score certificate will be returned to the applicant after confirmation.  The original score certificate of either of the following examinations
8	Score certificate of English language ability examination or Japanese-Language Proficiency Test	which was held after April 1, 2018 will be accepted.  1. TOEIC® public test or TOEIC® Institutional Program  2. TOEFL® - PBT  3. TOEFL® - iBT  4. Jitsuyo Eigo Gino Kentei (Test in Practical English Proficiency)  5. Japanese-Language Proficiency Test (N1) (Only for non-native speakers of Japanese)  The applicant who has the scores of a foreign language examination other than English and Japanese can submit the original score certificate of the concerned foreign language examination in addition to the original score certificate of either of 1-5 examinations listed above. Upon consultation with the faculty who is expected to be your advisor, choose one foreign language to be evaluated for the entrance examination.
9	Approval Notice of Application Eligibility Evaluation	Only for the applicant who has successfully passed a preliminary evaluation of application eligibility under the application eligibility(9) or (10).  Issued by the dean of the Graduate School of Advanced Science and Engineering, Hiroshima University.
10	Copy of residence card	Only for foreign applicants residing in Japan.  If your address is written on the back side of the card, make a two-sided copy.
11	Return envelope	Use standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 94-yen stamp to the front (for sending the Examination Card).

(Caution 1) Attach the English or Japanese translation to the application documents written in theoriginal language other than English or Japanese.

(Caution 2) The applicant who has successfully passed a preliminary evaluation of application eligibility need not submit the document No. 1 and 2 above.

#### 2. Selection Process

#### (1) Basic Policy

Academic abilities (based on the written examination and the oral examination), foreign language, the academic transcript, graduation thesis, and Common Issue will be comprehensively evaluated.

#### (2) Evaluation Criteria

[Written examination] Specialized subject (max. 100 pints)

Questions concerning your desired specialized field. Questions concerning a foreign language ability might be asked as well depending on your desired specialized field.

#### [Oral Examination] Max. 100 points

Motivation, aspirations, and basic research knowledge will be evaluated in scale assessment. Questions concerning a foreign language ability might be asked as well.

[Foreign Language] Max. 100 points (converted from scores of either the English language ability examination or Japanese-Language Proficiency Test)

#### (3) Written Examination and Oral Examination Schedule

Written Examination (Specialized Subject)	Oral Examination
Thursday, January 27, 9:00 – 11:00	Friday, January 28, 9:00 (approximately 30 minutes for each examinee)

(Caution) The details of the oral examination will be notified when sending the examination card and on the examination day.

# **Transdisciplinary Science and Engineering Program** (Development Science)

#### 1. Application Documents

After making the application via internet, submit all the documents listed below at once during the application period to the relevant Support Office indicated in the section "II Programs and Number of Students to be Admitted" (page 8). Download the specified forms (1, 2, 6, 7 and 8) from the web site of the Graduate School of Advanced Science and Engineering.

No	Document Name	Note	
1	Personal History	Use the specified form to prepare.	
2	Registration of selected subject for Applicants of Transdisciplinary Science and Engineering Program (Development Science)	Use the specified form to prepare.	
3	Academic transcript	Issued by the president of the university or the dean of the faculty the applicant attended or is attending.  The applicant who is currently enrolled in or graduated from a graduate school must submit the academic transcript for both the faculty and the graduate school.  The certificate must be the original or the certified photocopy. The uncertified photocopy will not be accepted.  If the certificate does not indicate evaluation criteria of grading, submit another document issued by the university that includes the evaluation criteria.  Issued by the president of the university or the dean of the faculty the applicant attended or is attending.  The applicant who is currently enrolled in or graduated from a graduate school must submit the certificate for both the undergraduate university and the graduate school.  The certificate must be the original or the certified photocopy. The uncertified photocopy will not be accepted.  If you are a graduate, make sure that the certificate includes information about your degree.  The applicant who graduated or is expected to graduate from a university in China (excluding that in Taiwan, Hong Kong, and Macao) is required to submit the following documents:  Graduate  Prospective Graduate  * 教育部学历证书电子注册备案表*  * 教育部学籍在线验证报告*  * 学业(硕士)学位证书  * Obtain the document for which the Web authentication will be valid as of Tuesday, January 25, 2022 via the authentication system of the Ministry Education of China (中国高等教育学历证书查询). http://www.chsi.com.cn/xlcx/bgys.jsp	
4	Certificate of graduation or certificate of expected graduation		
5	Certificate of expected application for the conferment of a bachelor's degree or certificate of a bachelor's degree	Only for the applicant who falls under the application eligibility (2)  • Expected graduate: Certificate of expected application for the conferment of a bachelor's degree issued by the president of a college of technology.  • Bachelor's degree holder: Certificate of a bachelor's degree issued by the National Institution for Academic Degrees and Quality Enhancement of Higher Education.	
6	Research plan	Use the specified form to prepare.	
7	Reasons for Application	Use the specified form to prepare.	

8	Letter of approval for taking the entrance examination	The applicant who is currently enrolled in a graduate school  The applicant who works in private company, international organization, governmental organization, local government, or educational	Use the specified form to prepare. The applicant who is enrolled in other graduate school must submit a letter of approval for taking the entrance examination issued by the president of the university or the dean of the graduate school  Use the specified form to prepare. The applicant who currently works in private company, international organization, governmental organization, local government, or educational organization and wishes to enroll in our graduate school while in service must submit a letter of approval for taking the entrance examination issued by the
		organization	organization.
9	Japanese Government (MEXT) Scholarship Certificate	Only for Japanese Gove	ernment (MEXT) Scholarship recipient's
10	Certificate of Japanese language Test Score (The original only)	<ul> <li>The score of one of the following Japanese language tests:         <ul> <li>(1) Japanese Language Proficiency Test, (2) Japanese Examination of Japanese University Admission for International Student (EJU), (3) Final Examination of Preparatory Education for the Foreign Government-sponsored Students granted by the Japanese government in China and Malaysia, or (4)J.Test.</li> </ul> </li> <li>Score certificates must be official and original issued by the respective organizations of the examinations. Any other kinds of score documents or photocopy of the certificates are not acceptable. The tests taken within 2 years before the examination date is preferred.</li> </ul>	
11	Certificate of English language Test Score (The original only)	of English for Intern (2)Test of English a TOEFL-PBT or TO Testing System (IEI • TOEIC-IP(L&R) or held in a university scores of the tests h confirm with Studer • Score certificates m respective organizat	of the following English language tests: (1)Test national Communication (TOEIC(L&R)), is a Foreign Language (either TOEFL-iBT, EFL-CBT), (3) International English Language LTS). Or (4) STEP Eiken.  TOEFL-ITP results can be accepted if they are or an equivalent educational institution. For the eld by non-educational organizations, please int Support office beforehand.  Sust be official and original issued by the tions of the examinations. Any other kinds of photocopy of the certificates are not
12	Return envelope	Use standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 94-yen stamp to the front (for sending the Examination Card).	
13	Copy of residence card	Only for foreign appli	cants residing in Japan. ritten on the back side of the card, make a
<del></del>		<del> </del>	

(Caution 1) Attach the English or Japanese translation to the application documents written in the original language other than English or Japanese.

(Caution 2) The applicant who has successfully passed a preliminary evaluation of application eligibility need not submit the document No. 3,4, 6 and 7 above.

(Caution 3) The applicant who is unable to submit the original score certificate of either of Japanese or English language ability examinations listed above must submit instead the official document issued by the university that certifies that you have passed through the school education program in the university in a foreign country with English being the medium of instruction.

#### 2. Selection Process

#### (1) Basic Policy

Academic abilities (based on the written examination and the oral examination), etc., will be comprehensively evaluated.

#### (2) Evaluation Criteria

[Written Examination (Basic subject and Specialized subject)]

In principle, the applicant who has marked higher than 60% of the total scores will be accepted. Point allocation for each subject: Basic subject (max. 100 points); Specialized subject (max. 100 points)

#### [Oral Examination]

The results of the Oral Examination in the style of interview will be evaluated in scale of three levelindicated below. And also, the Oral Examination includes the evaluation of the **Application** 

#### Documents.

A	Excellent (Most Appropriate for Enrollment)
В	Good (Appropriate for Enrollment)
С	Poor (Inappropriate for Enrollment)

#### [General Judgement]

Those who have passed both the Written Examination and Oral Examination will be successful applicants.

#### (3) Written Examination and Oral Examination Schedule

Written Examination	Oral Examination	
Thursday, January 27, 9:00 – 11:00	Friday, January 28, 9:00 -	

(Caution) The details of the Oral Examination will be notified when sending the examination card and on the examination day.

#### (4) Subjects of Written Examination

Select one subject from both Basic subject and Specialized subject respectively at the time of application

аррисации.		
Subject	Scope and Subject Name	
Dagia gubiaat	Questions concerning basic fields of Engineering, Science and Agriculture	
Basic subject	○ Transdisciplinary Science and Engineering (Development Science)	
	○ Transportation and Urban Planning	
	○ Urban and Building Environment	
	Environmental Physics for Sustainable Architecture	
G : 1: 1	O Functional Plant Sciences	
Specialized subject	○ Energy Science and Technology	
subject	○ Ecology	
	○ Environmental Health Science	
	○ Urban Environmental Science	
	○ Urban Mobility Science	

# **VI** Application Procedure

#### 1. Application method

Apply via internet and submit the application documents.

- ① Input the information regarding the application on the website.
- ② Pay the entrance examination fee of 30,000 yen.
- 3 Deliver or mail the application documents.

#### (Caution)

The application via internet will not be completed when only the input of the information on the website and the payment of the entrance examination fee are done. It is required to deliver or mail the application documents to be received before the deadline. The application will not be accepted when the applicant only sends the application documents.

#### 2. Application period

The applicant must complete all the processes of ①, ②, and ③ listed in the "1.Application method" during the application period.

#### Tuesday, January 4, 2022 - 17:00, Tuesday, January 11, 2022

In the case of ③ (submission via mail), the documents must be sent in a registered mail and reach us no later than 17:00, Tuesday, January 11. The documents received after this time shall be accepted only when it is postmarked no later than Thursday, January 6.

#### 3. Application via internet

◆ Inquiry regarding the system

#### Internet application help desk (only Japanese language available)

Open: 10:00 - 18:00 (closed in the period from December 30 to January 3)

Tel: 03-5952-3902

(International calls and calls on IP telephony can also be received)

#### UCARO Office (only Japanese language available)

Open: 10:00 - 18:00 (closed in the period from December 30 to January 3)

Tel: +81-50-3786-5524

(For International calls and calls on IP telephony:03-5952-2114)

O For inquiries regarding the entrance examination, refer to the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8).

Open: 8:30 - 17:00 (closed on Saturday, Sunday, and national holidays)

\* Please note that it is required to include the area code to dial if you call from the following areas, even when you call from an area of the same area code as that of the inquiry contact.

(Areas in Hiroshima City, Fuchu Town, Kaita Town, and Saka Town)

O Complete the following 8 steps during the application period.

#### **Step 1: Access the Online Application System.**

Access the following website:

Hiroshima University's Admission Information https://www.hiroshima-u.ac.jp/en/nyugaku



#### Step 2: Select the item "Registration for UCARO" on the login screen of UCARO.

Account registration for UCARO system is required for application (free of charge).

Hiroshima University uses the system of UCARO for checking the applicant's number and processing a part of admission procedure for the applicant who will pass the entrance examination.

#### Step 3: Input your account information (Exemption category only).

The applicant who applies for exemption from the entrance examination fee must consult in advance with the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8) to obtain the alphanumeric characters of eight or more digits and input them.

#### Step 4: Input the information regarding the application in the Internet Application System.

Follow the instruction shown on the screen to input your name, address, etc.

The applicant can choose the prospective academic advisors of the respective programs from "List of Academic Supervisors" and input their names from the 1st choice (Required) to 2nd and 3rd choice (Optional) in the column of "Academic Advisor." Please note that the applicant for Applied Chemistry Program and Smart Innovation Program (Applied Chemistry) is requested to input the names of "Research Fields" of the prospective academic advisors from the 1st choice to the 3rd choice (All Required), not their personal names.

#### Step 5: Upload your photograph.

Follow the instruction shown on the screen to upload the digital data of your photograph (File format: JPEG).

#### Step 6: Pay the entrance examination fee of 30,000 yen.

Select either of the following payment methods on the "Input Payment Information" screen:

- 1. Credit card: VISA, MasterCard, JCB, AMERICAN EXPRESS, Diners Club
- 2. Convenience store: 7-ELEVEN, Lawson, MINISTOP, FamilyMart, Daily Yamazaki, and Seicomart
- 3. ATM of a financial institution [Pay-easy]
- 4. Net banking

(Caution)

- The applicant has to pay the charge for use of the Internet Application System (650 yen per application) in addition to the entrance examination fee.
- MEXT Scholarship students who have applied for (or intend to apply for) extension of scholarship payment period are exempted from the entrance examination fee. Those students who are enrolled in the university other than Hiroshima University at the time of application are required to submit the following two documents;
  - (1) MEXT Scholarship Certificate
  - (2) The document which proves that the applicant has applied for (or intends to apply for) extension of scholarship payment period (must be issued by the university the applicant is enrolled in).
- The entrance examination fee once paid will not be returned for any reason after the application is accepted except for the following cases of (1) or (2).

In either case of (1) or (2), the entrance examination fee once paid will be returned after deducting the transfer fee from it. "Refunded Invoice for Entrance Examination Fee" will be sent to you. Fill in the required information, put your personal seal, and mail it back to the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8) before Monday, February 28, 2022.

The charge for use of the Internet Application System will not be repaid for any case.

- (1) The applicant does not submit the application documents or the application documents are not accepted.
- (2) The payment of the examination fee is duplicated.

#### **Step 7: Complete the registration of the application information.**

Write down the application number of six digits shown on the screen.

#### Step 8: Deliver or mail the application documents.

Deliver or mail your application documents specified by the Program to the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8).

The Support Office is open from 8:30 to 17:00 during the application period (except for Saturday, Sunday and national holidays) for the applicant who delivers the application documents.

In the case of submission via mail, the documents must be sent in a registered mail and reach us no later than Tuesday, January 11. The documents received after this time shall be accepted only when it is

postmarked no later than Thursday, January 6.

Indicate the phrase "Application Documents for OOO Program in the Graduate School of Advanced Science and Engineering is enclosed." in red on the front surface of the envelope.

#### VII Miscellaneous

#### 1. Instruction for Application

(1) Consult with the faculty who is expected to be your academic supervisor about your research theme before applying.

For the information regarding faculties of the Graduate School of Advanced Science and Engineering, refer to the following website.

URL https://www.hiroshima-u.ac.jp/en/adse/resea

The consultation is held as part of information provision from the Graduate School and does not affect the result of the selection in any way.

- (2) The application documents with a defect might be rejected. After the application documents are accepted, they shall not be returned and it is not allowed to amend the information described in them for any reason.
- (3) For the certificates, it is required to submit the original or a copy with the original certification. Any copy without the original certification will not be accepted as the valid certificate.
- (4) The score certificate of English-language proficiency submitted for the application for Earth and Planetary Systems Science Program in Science Programs, Engineering Programs & Informatics an Data Science Program, and Quantum Matter Program will be used for the following purposes.
  - (1) Entrance examination
  - ② Statistics and analysis of English-language proficiency of applicants
- (5) The admission approval shall be withdrawn when it is found that the submitted documents contain any false indication.
- (6) The admission approval shall be withdrawn when the applicant who was expected to meet any of the application eligibilities at the time of application has failed to earn the expected degree or complete the expected school before the date of admission.

# 2. Consultation with the Applicant who Needs Special Consideration for the Entrance Examination and/or Education in the Graduate School

The applicant who needs special consideration for the entrance examination and/or education in the Graduate School is required to submit the application form (in free format) which contains the following information to the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8) to arrange a consultation.

- A. Period for the consultation: Monday, December 6 Friday, December 10, 2021
- B. Information to be described in the application
  - ① Name & address of the applicant (the phone number must be included.)
  - ② Name of the university from which the applicant has graduated, Program for which the applicant will apply, and the name of the faculty who is expected to be the applicant's academic supervisor.
  - ③ Type and severity of the disability (submit a medical certificate issued by a doctor if the applicant is in treatment)
  - 4 Measures to be taken for the entrance examination.
  - (5) Measures to be taken for education in the Graduate School
  - ⑤ Specific measures that were taken in the university from which the applicant has graduated
  - 7 Conditions of the daily life

#### 3. Handling of Personal Information

The personal information obtained via the admission selection process (name, birth date, gender, and the other personal information) is used for the selection of entrants, notification to the successful applicants, and admission procedures. After the enrollment, Hiroshima University will manage the

information for the purposes of student support (e.g. application for scholarship and tuition exemption) and investigation & research activities (e.g. improvement of the entrance examination system, investigation and analysis on the trend of application). We neither use the information for the other purpose nor provide it to the person other than our concerned faculties and the staff.

#### 4. Admission Procedure

(1) Documents for admission procedure

The documents will be sent after the selection result is announced.

UCARO system is used as a part of the admission procedures.

(2) Fee

A: Enrollment fee: 282,000 yen B: Tuition (per year): 535,800 yen

- ① The enrollment fee once paid will not be returned for any reason.
- ② The amounts listed above are as of April 2021. When the amount is revised at the time of admission or while the student is enrolled in the university, it is required to pay the revised amount.

#### 5. Application for Disclosure of Examination Results

(1) The information regarding the result of the entrance examination for the Graduate School of Advanced Science and Engineering listed below is disclosed only to the person who has applied for the entrance examination (hereinafter referred to as the "applicant for disclosure").

Item	Disclosed information
Examination	Points for each subject
score	Evaluation for each subject (including the results of the scale assessment)

- (2) The examination result (personal information) will be delivered on the respective Support Office or be sent via mail to the applicant for disclosure.
- (3) The applicant for disclosure is required to download the form of "Application for Entrance Examination Result Disclosure" from the website of the Graduate School of Advanced Science and Engineering, fill in the required information, and directly submit or mail it to the respective Support Office.

It is also required to submit the admission ticket for identification.

- (4) The Application for Entrance Examination Result Disclosure will be accepted during the period from April 1, 2022 to May 31, 2022
- (5) The result of the application shall be notified within 30 days after the Application for Entrance Examination Result Disclosure is received.

#### 6. Others

- (1) Smoking has been prohibited entirely in all Hiroshima University campuses from January, 2020.
- (2) Hiroshima University has established the university's Rules on Security Export Control in accordance with the Foreign Exchange and Foreign Trade Act, and conducts strict examinations for acceptance of international students, etc. Therefore, please be advised that international applicants may be unable to receive their desired education or conduct their desired research due to the restriction by the above regulations.

#### Special Measure of Exemption from the Entrance Examination Fee for the Applicant

Hiroshima University has decided to implement a special measure of exemption from the entrance examination fee for the entrance examinations in the 2021 academic year, to alleviate the economic burden on and to secure educational opportunities for the applicants affected by the disasters.

The applicant who wishes to be exempted from the entrance examination fee must contact in advance the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8).

#### 1 Examinations to which the Special Measure is Applied

The entrance examinations held in the 2021 academic year (including selections of re-admission, transfers, and mid-course entry admission).

#### 2 Special Measure

Exemption from the entrance examination fees

\*Fees for the entrance examination result disclosure will be covered as well.

#### 3 Disasters to which the Special Measure is Applied

- (1) The Heavy Rain Event of July 2018
- (2) Any disasters covered by the Disaster Relief Act after August 28, 2019

#### 4 The Applicant Eligible for Exemption

The applicant who was affected by the disaster specified in the "3 Disasters to which the Special Measure is Applied" in the areas covered by the Disaster Relief Act, and who falls under either of the following conditions.

- (1) The house in which the family's chief provider bearing the applicant's school expenses resides was completely destroyed, largely destroyed, or half-destroyed.
- (2) The family's chief provider bearing the applicant's school expenses died or was listed as missing in the disaster

(Caution) For the details of the areas covered by the Disaster Relief Act, refer to the following website. http://www.bousai.go.jp/taisaku/kyuujo/kyuujo\_tekiyou.html

#### 5 Application

The applicant must contact in advance the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8), and subsequently submit the specified application documents for exemption along with other required documents for admission.

In this case, do not pay the entrance examination fee at the time of application.

#### 6 Application Documents

(1) Application form for exemption from the entrance examination fee (Download the form from the following website)

https://www.hiroshima-u.ac.jp/en/nyugaku

- (2) Disaster victim certificate (a copy is acceptable) (For the applicant who falls under the condition of the item (1) of the "4 The Applicant Eligible for Exemption" above)
- (3) Document that proves the death or missing status of the family's chief provider (a copy is acceptable) (For the applicant who falls under the condition of the item (2) of the "4 The Applicant Eligible for Exemption" above)

#### 7 Application Process (Internet Application)

Refer to the PDF file available in the following website.

https://www.hiroshima-u.ac.jp/system/files/131856/Online application procedures for-Application Fees Exemption.pdf

#### 8 Contact

Refer to the respective Support Office listed in the section "II Programs and Number of Students to be Admitted" (page 8).