October 2020 and April 2021 admission (A Term)

Graduate School of Advanced Science and Engineering (Master's Course)

Division of Advanced Science and Engineering

General Selection Application Guidebook

June 2020



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

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.

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I 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 admission to the Master's Course as indicated below for October 2020 admission and April 2021 admission.

[October 2020 Admission]

Division	Program	Capacity	Admission Capacity	Venue for Examination	Contact Submission address for application documents
	Physics Program Earth and Planetary Systems Science Program Applied Chemistry Program			Support Office for the fields of Science 739-8526 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7309, 4468	
Div	Chemical Engineering Program Electrical, Systems, and Control Engineering Program				Support Office for the fields of
Division of Advanced Science and Engineering	Mechanical Engineering Program Transportation and Environmental Systems Program	449	449 Several students	School of Engineering Hiroshima University	Engineering 7739-8527 1-4-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7518
	Architecture Program				
	Civil and Environmental Engineering Program Informatics and Data Science Program				
and Enginee	Quantum Matter Program				Support Office for the fields of Science 739-8530 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7008, 7009
ering	Transdisciplinary Science and Engineering Program (Environmental and Natural Sciences)				Support Office for the fields of Integrated Arts and Sciences 739-8521 1-7-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-6318
	Transdisciplinary Science and Engineering Program (Development Science)				Support Office for the fields of International Development and Cooperation 739-8529 1-4-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-4680

(Caution)

- This selection for October 2020 admission is not applied to the following programs: Mathematics Program, Basic Chemistry Program, Smart Innovation Program
- Consult with the faculty who is expected to be your advisor about your research theme before applying.

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

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

[April 2021 Admission (A Term)]

Division	Program	Capacity	Admission Capacity	Examination Location	Contact Submission address for application documents
Division Division of Advanced Science and Engineering	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 Mechanical Engineering Program			Submission address for application documents 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	
	Transportation and Environmental Systems Program Architecture Program Civil and Environmental Engineering Program Informatics and Data Science Program Smart Innovation Program		288	School of Engineering Hiroshima University	Engineering 〒739-8527 1-4-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7518
	Quantum Matter Program Transdisciplinary Science and Engineering Program (Environmental and Natural Sciences)				Support Office for the fields of Science 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: 082-424-6318
	Transdisciplinary Science and Engineering Program (Development Sciences)				Support Office for the fields of International Development and Cooperation 739-8529 1-4-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-4680

(Caution)

- This selection for April 2021 admission is applied to all the programs.
 Consult with the faculty who is expected to be your advisor about your research theme before applying.
 For the information regarding faculties of the Graduate School of Advanced Science and Engineering, refer to the following web site.

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

II Outline of Entrance Examination

1. Schedule of the Entrance Examination

Application period	Date of the entrance examination	Examination subject	Examination result announcement
	Thursday, August 27, 2020, 9:00 -	Written examination	
Friday, July 17, 2020 – Monday, July 27, 2020	Friday, August 28, 2020, 13:30-	Oral examination	Friday, September 4, 2020 12:00 (tentative schedule)
	(Preliminary date: Saturday, August 29, 2020)		

(Caution)

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. We will notify you of postponement of the examination, extension of the starting time of the examination and so forth on the web site of the Graduate School of Advanced Science and Engineering (https://www.hiroshima-u.ac.jp/adse). Please keep yourself updated.

2. Application Eligibility

Refer to the section "III Application Eligibility" (pages 8 – 10).

3. Required Documents and Selection Process

Refer to the description of the required documents and selection process (examination subject, basic policy, and evaluation criteria) for each Program listed in the section "IV Required Documents and Selection Process" (page 11).

4. Application Procedure

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

 Refer to the procedure described in the section "V Application Procedure" (page 33).
- (2) Deliver or mail your application documents specified by the Program to the submission address for application documents listed in the previous section "I Programs and Number of Students to be Admitted" (pages 5 6).

The contact desk is opened 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, on Monday, July 27. The documents that will be received after the date shall be accepted only when it is postmarked no later than Friday, July 24.

5. Result Announcement

We will send the acceptance certificate and the admission guide to the accepted applicants by mail. An announcement will also be made on the web site of Graduate School of Advanced Science and Engineering, Hiroshima University (https://www.hiroshima-u.ac.jp/adse). The announcement on the web site 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 campus.

(We do not answer any inquiry via phone.)

III Application Eligibility

1. Application Eligibility

The applicant must meet either of the following categories:

- (1) A person who has graduated from a university or college, or is expected to graduate
- (2) A person who has 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 earn (hereinafter referred to as "expected graduate").
- (3) A person who has passed through a 16-year school education program in a country other than Japan or is expected to pass through.
- (4) A person who studied the class subjects in Japan in a correspondence course provided by a foreign school to pass through the 16-year school education program in the concerned foreign country or is expected to pass through.
- (5) A person who has passed through an education program (limited to that for which the person who has passed through the program is regarded as pass through the 16-year education program of the school education in the concerned foreign country) of a foreign education institute that is established as an institute which offers university education in the school education system in the concerned country and is separately specified by the Minister of Education, Culture, Sports, Science and Technology (MEXT), or is expected to pass through.
- (6) A person who has been awarded a degree equivalent to a bachelor's degree after passing through a course of which the term is 3 years or longer (including a person who studied the class subjects in Japan in a correspondence course provided by a foreign school and passed through the concerned education course; and a person who passed through the education course in an education institution which is established within the school education system in the concerned foreign country and is approved by MEXT as described below) 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 of the concerned foreign country or specified as a corresponding institution by MEXT.
- (7) A person who has passed through the postsecondary course of a professional training college (limited to that meets the criteria specified by MEXT, such as 4 years or longer course term) which is separately specified by MEXT after the date specified by MEXT, or is expected to pass through.
- (8) A person who is 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 entered a graduate school according to Section 2 of Article 102 of the Act and then is approved by our Graduate School to have academic capabilities required for the education in the Graduate School.
- (10) A person who is 22 years or older and is determined to have capabilities equivalent or superior to a graduate of a university in the admission eligibility examination.
- (Caution 1) The Applicant who is expected to meet either of the categories of the item (1) to (8) above must be expected to graduate or pass through by September 30, 2020 for October 2020 admission, and by March 31, 2021 for April 2021 admission.
- (Caution 2) The applicant who falls under the category of the item (9) or (10) above must undergo a preliminary evaluation of application eligibility (refer to "2. Prerequisites for Application").

2. Prerequisites for Application

 $(1) \, Preliminary \, Examination$

The applicant who falls under the category of the item (9) or (10) must undergo a preliminary evaluation of application eligibility. The concerned applicant must follow the following procedure.

a) Application Period

Monday, July 6, 2020 - Friday, July 10, 2020 no later than 17:00

(In the case of submission via mail, the documents must be sent in a registered mail. Indicate 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 category of the item (9) above

Download the specified forms (a, b, c and g) from the web site 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.	Use the specified form to prepare.		
c	Reasons for Application	Use the specified form to prepare.	Use the specified form to prepare.		
d	Research plan	Must use A4 sized paper; any forma achievements, if any.	at acceptable. Attach a list of research		
e	Academic transcript from your previous university or college	Issued by the president of the unive which the applicant graduated.	Issued by the president of the university or the dean of the faculty from which the applicant graduated.		
f	Certificate of student registration or graduation from a graduate school	Issued by the president of the university or the dean of the graduate school which the applicant graduated from or are currently enrolled in.			
gg	Reference for Educational Background	university in China (excluding that is required to obtain and submit the factorial or sequence of the factorial of the factorial or sequence of the factorial or sequence of the factorial of the factorial or sequence or sequence of the factorial or sequence or sequence or sequence of the factorial or sequence or seque	or is expected to graduate from a in Taiwan, Hong Kong, and Macao) following document: Prospective Graduate ·教育部学籍在线验证报告* ·毕业预定证书 e Web authentication will be valid as the authentication system of the 国高等教育学历证书查询).		
h	Return envelope Use standard envelope (12cm×23.5cm in size) and fill out your address and name; affix a 374-yen stamp to the front.				

(Caution) It is required to attach the English or Japanese translation to the application document written in the other language.

[The applicant who falls under the category of the item (10) above]

Download the specified forms (a, b, c, g and h) from the web site 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.
С	Reasons for Application	Use the specified form to prepare.
d	Research plan	Must use A4 sized paper; any format acceptable. Attach a list of research achievements, if any.
e	Academic transcript from the last school attended	Issued by the president of the school from which the applicant graduated.
f	Certificate of graduation from the last school attended	Issued by the president of the school from which the applicant graduated.
g	Certificate of Past Research	*Only for those who conducted research as a research student or researcher for over 1 year at a research institute (be it in Japan, a university abroad, or a joint use facility). Use the specified form to prepare.
h	Reference for Educational Background	Only for the applicant who has graduated from a foreign university. Use the specified form to prepare. The applicant who has graduated or is expected to graduate from a university in China (excluding that in Taiwan, Hong Kong, and Macao) is required to obtain and submit the following document:

		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*	
		・毕业证书	・毕业预定证书	
		・学士(硕士)学位证书		
		* Obtain the document for which the Web authentication will be valid as		
		of Monday, July 27, 2020 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		
:	Datam anyalana	Use standard envelope (12cm×23.5cm in size) and fill out your address		
1	Return envelope	and name; affix a 374-yen stamp to the front.		

(Caution) It is required to attach the English or Japanese translation to the application document written in the other language.

- (2) The evaluation results will be notified to the applicant by Tuesday, July 14, 2020.
- (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 page listed in the section "IV Required Documents and Selection Process" (page 11).

IV Required Documents and Selection Process

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

For the detail, refer to the page listed in the table below.

Program	Category	Page(s) to be referred
Mathematics Program		
Physics Program	Science Programs	Pages 12 to 15
Earth and Planetary Systems Science Program		- 1.5.0 - 1.0 - 1.0
Basic Chemistry Program		
Applied Chemistry Program		
Chemical Engineering Program		
Electrical, Systems, and Control Engineering Program		
Mechanical Engineering Program	Eurin anima Duramana 0	
Transportation and Environmental Systems Program	Engineering Programs & Informatics and Data Science Program	Pages 16 to 23
Architecture Program	1108	
Civil and Environmental Engineering Program		
Informatics and Data Science Program		
Smart Innovation Program		
Quantum Matter Program		Pages 24 to 26
Transdisciplinary Science and Engineering Progr (Environmental and Natural Sciences)	ram	Pages 27 to 29
Transdisciplinary Science and Engineering Progr (Development Science)	ram	Pages 30 to 32

Science Programs

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

1. Admission Policy

(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 Pogram]

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;
- ②The 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.

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" (pages 5-6).

No	Document Name	No	<u> </u>	
1	Academic transcript	Issued by the president of the university or the dean of the faculty from which the applicant graduated.		
	Certificate of graduation or	Issued by the president of the university the applicant graduated. The applicant who has graduated or is e Science of Hiroshima University need in The applicant who has graduated or is e China (excluding that in Taiwan, Hong and submit the following document:	xpected to graduate from the School of not submit this document. xpected to graduate from a university in Kong, and Macao) is required to obtain	
2	certificate of expected graduation	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 W		
		Tuesday, August 11, 2020 via the aut Education of China (中国高等教育等 http://www.chsi.com.cn/xlcx/bgys.jsp	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	Only for the applicant who falls under the category of the item (2) above. • 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	Certificate of English language ability	Only for the applicant for Physics Program, Earth and Planetary Systems Science Program or 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 sheet to be returned, please inform us at the time of application. Refer to Caution 3 below for details.		
5	Return envelope	Use standard envelope (12cm×23.5cm name; affix a 94-yen stamp to the front	n in size) and fill out your address and (for sending the Examination Card).	

(Caution 1) It is required to attach the English or Japanese translation to the application document written in the other language.

(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) Regarding certificate of English language ability

Physics Program, Earth and Planetary Systems Science Program and Basic Chemistry Program will use TOEIC® or TOEFL® scores in place of a written foreign language (English) examination.

The original score certificate of TOEIC® public test, TOEIC®-IP (including College TOEIC®), TOEFL®-CBT, TOEFL®-PBT, or TOEFL®-iBT will be accepted. The applicant is required to submit, along with other required documents, the original score certificate of either of these examinations who has taken more than one examination must choose one to submit. If you cannot submit the score certificate please contact the Support Office for the fields of Science.

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 Support Office for the fields of Science.

The applicant who does not submit their score certificate may take the rest of a written foreign language (English) examination (if applicable) but will receive 0 (zero) points for the corresponding portion of the examination.

3. Selection Process

(1) Basic Policy

OMathematics Program

To evaluate whether an applicant has acquired specialized knowledge and foreign language proficiency in the Bachelor's course, and whether the applicant can engage in academic activities in accordance with the Curriculum Policy of the course, academic aptitude examinations (written examination on the specialized subject, an oral examination, Foreign language proficiency exam) are given to the applicant to evaluate basic knowledge, the ability to understand, think and self-express, and other abilities. The result of the written examination and foreign language proficiency examination are evaluated by point-based scores. The result of the oral examination is evaluated by grade-based scores.

OPhysics Program

To evaluate whether an applicant has acquired specialized knowledge and foreign language proficiency in the Bachelor's course and whether the applicant can engage in academic activities in accordance with the Curriculum Policy of the course, academic aptitude examinations (written examination on the specialized subject and an oral examination) are given to the applicant to evaluate basic knowledge, the ability to understand, think and self-express, and other abilities.

Admission to the course is determined based on a comprehensive evaluation of the results of the examinations, the foreign language proficiency and the academic transcript of the applicant.

Earth and Planetary Systems Science Program

To evaluate whether an applicant has acquired specialized knowledge and foreign language proficiency in the Bachelor's course and whether the applicant can engage in academic activities in accordance with the Curriculum Policy of the course, the academic transcript of the applicant, the results of written examination on the specialized subject and an oral examination, and English language proficiency are comprehensively evaluated. The result of the written examination and foreign language proficiency (base on the score certificate of TOEIC® or TOEFL®) are evaluated by point-based scores. The result of the oral examination and the academic transcript are evaluated by grade-based scores.

OBasic Chemistry Program

To evaluate whether an applicant has acquired specialized knowledge and foreign language proficiency in the Bachelor's course and whether the applicant can engage in academic activities in accordance with the Curriculum Policy of the course, the academic transcript of the applicant, the results of written examination on the specialized subject and an oral examination, and English language proficiency are comprehensively evaluated. The result of the written examination and foreign language proficiency (base on the score certificate of TOEIC® or TOEFL®) are evaluated by point-based scores. The result of the oral examination and the academic transcript are evaluated by grade-based scores.

(2) Evaluation Criteria

OMathematics Program

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

[Oral examination] Scale of 1 to 4

[Academic transcript] Scale of 1 to 3

OPhysics Program

[Written examination] Specialized subject (max. 400 points)

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

[Oral examination] Scale of 1 to 4

[Academic transcript] Scale of 1 to 3

Earth and Planetary Systems Science Program

[Written examination] Specialized subject (max. 400 points)

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

[Oral examination] Scale of 1 to 4

[Academic transcript] Scale of 1 to 3

OBasic Chemistry Program

[Written examination] Specialized subject (max. 400 points)

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

[Oral examination] Scale of 1 to 4 [Academic transcript] Scale of 1 to 3

(3) Written Examination and Oral Examination Schedule

Program Name	Writt	Written Examination		Oral Examination
Mathematics Program	Thursday, August 27	Specialized subject	9:00-12:00 13:30-16:30	
Watternatics Frogram	Friday, August 28	Foreign language	9:00-11:00	
Physics Program	Thursday, August 27	Specialized subject	9:00-12:00	Friday, August 28, 13:30 -
Earth and Planetary Systems Science Program	Thursday, August 27	Specialized subject	9:00-12:00	
Basic Chemistry Program	Thursday, August 27	Specialized subject	9:00-12:00	

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

(Caution 3) Details of the oral examination will be notified on the day.

(4) Contents of Written Examination in Specialized Subject

Program Name	Contents
Mathematics Program	Basic questions concerning mathematics
Physics Program	Four questions concerning dynamics, electromagnetics, quantum dynamics, and thermal/statistical dynamics
Earth and Planetary Systems Science Program	Six questions concerning earth and planetary systems science; four questions must be chosen and answered.
Basic Chemistry Program	Basic questions from respective branches of chemistry

⁽Caution 2) For the contents of the written examination in specialized subject, refer to the table below. The use of dictionaries will not be allowed during the written examination in foreign language.

Engineering Programs & Informatics and Data Science Program

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

1. Admission Policy

[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 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 chemical engineering 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 the chemical engineering as well as a wide range of intelligence; and
- 4 Common sense and ethics required for a member of society.

[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.

[Mechanical Engineering Program]

The Mechanical 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 mechanical engineering 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 the mechanical 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.

(Architecture Program)

The Architecture 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 architecture 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 architecture 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 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 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 a fusion area of them;
- ③ 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 smart material development, the smart measurement and control, and a fusion area of them; and

4 Common sense and ethics required for a member of society.

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" (pages 5-6). Download the specified forms (4, 7, 8 and 10) from the web site of the Graduate School of Advanced Science and Engineering.

		site of the Graduate School of Advanced Science and Engineering.
No	Document Name	Note
1	Academic transcript	Issued by the president of the university or the dean of the faculty from which the applicant graduated. The applicant who has graduated or is expected to graduate from the advanced course in a college of technology must submit the academic transcript for both the regular and advanced course.
2	Certificate of graduation or certificate of expected graduation	Issued by the president of the university or the dean of the faculty from which the applicant graduated. If the certificate does not indicate that you have earned a bachelor's degree, submit another document that proves it.
3	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 category of the item (2) above. 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 TOEIC®/TOEFL®	Submit the original score certificate of either of the following 5 examinations which was held in the period from May 2017 to the time of application. (The submitted score certificate will be returned to the applicant after confirmation). Although there is no minimum standard for the scores, application without submission of the score certificate will not be accepted. TOEIC® Public Test TOEIC®-IP (including College TOEIC®) TOEFL®-PBT TOEFL®-ITP TOEFL®-IBT
6	Score certificate of TOEIC®/TOEFL® (copy)	Submit a copy of the document No. 5 "Score certificate of TOEIC®/TOEFL®" (copy it in A4 sized paper)
7	Registration of Selected Subject for Applicants of Architecture Program or Smart Innovation Program	Only for the applicant for Architecture Program and Smart Innovation Program Use the specified form to prepare
8	Registration of Selected Subject for Applicants of Civil and Environmental Engineering Program and The List of Reviewed Papers Regarding Essay for Applicants of Civil and Environmental Engineering Program	Only for the applicant for Civil and Environmental Engineering Program Use the specified form to prepare. When preparing the list of reviewed papers, follow the instruction of the specified form.
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	Reference for Educational Background	Only for the applicant who graduated from a foreign university. Use the specified form to prepare. The applicant who has graduated or is expected to graduate from a university in China (excluding that in Taiwan, Hong Kong, and Macao) is required to obtain and submit the following document:

		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*	
		・毕业证书	・毕业预定证书	
		・学士(硕士)学位证书		
		* Obtain the document for which the Web authentication will be valid as of		
		Monday, July 27, 2020 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		
11	Dotum anyalana	Use standard envelope (12cm×23.5cm	in size) and fill out your address and	
11	Return envelope	name; affix a 94-yen stamp to the front (for sending the Examination Card).		

⁽Caution 1) It is required to attach the English or Japanese translation to the application document written in the other language.

(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.

3. Selection Process

(1) Basic Policy

Academic abilities (based on the written examination and the oral examination), English (based on TOEIC® or TOEFL® scores), and the academic transcript will be comprehensively evaluated.

(2) Evaluation Criteria

[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 TOEIC® or TOEFL® scores)

[Academic transcript] Scale of 1 to 4

(3) Written Examination and Oral Examination Schedule

Program Name	Written Examination			Oral Examination
Applied Chemistry Program	Thursday, August 27	Specialized subject I	9:00-12:00	
Applied Chemistry Flogram	Thursday, August 27	Specialized subject II	13:30-15:00	
Chemical Engineering Program	Thursday, August 27	Specialized subject I	9:00~12:00	
Chemical Engineering Program	Thursday, August 27	Specialized subject II	13:30~16:30	
Electrical, Systems, and	TI 1 A 427	Specialized subject I	9:00~12:00	
Control Engineering Program	Thursday, August 27	Specialized subject II	13:30~16:30	
Mechanical Engineering	Ti1 A	Specialized subject I	9:00~12:00	
Program	Thursday, August 27	Specialized subject II	13:30~16:30	
Transportation and	TTI 1 A	Specialized subject I	9:00~12:00	
Environmental Systems Program	Thursday, August 27	Specialized subject II	13:30~16:30	Friday, August 28,
A1.'44 Du	Thursday, August 27	Specialized subject I	9:00~12:00	13:30-
Architecture Program		Specialized subject II	13:30~16:30	
Civil and Environmental	TTI 1 A	Specialized subject I	9:00~11:30	
Engineering Program	Thursday, August 27	Specialized subject II	13:30~15:00	
Informatics and Data Science	Ti 1 A 427	Specialized subject I	9:00~11:00	
Program	Thursday, August 27	Specialized subject II	13:30~15:30	
Smart Innovation Program	TI 1 A 27	Specialized subject I	9:00~12:00	
(Applied Chemistry)	Thursday, August 27	Specialized subject II	13:30~15:00	
Smart Innovation Program	TDI 1 4 .27	Specialized subject I	9:00~12:00	
(Electrical, Systems, and Control Engineering)	Thursday, August 27	Specialized subject II	13:30~16:30	

(Caution 1) For the contents of the written examination in specialized subject, refer to the table below. (Caution 2) Details of the oral examination will be notified on the day.

(4) Contents of Written Examination

Program Name	Subject Name	Category	Contents	
Applied Chemistry	Applied	Specialized subject I	Basic Organic • Polymer Chemistry (Basic Organic and Polymerization Reactions, Acids and Bases, Structure (Resonance, Stereochemistry of Organic Compounds Including Polymers, Isomers), Basic Physical Chemistry (Equilibrium, Quantum), Basic Inorganic • Analytical Chemistry (Fundamental Problems in Inorganic and Analytical Chemistry)	
Program	Chemistry	Specialized subject II	Select one of the following three subject groups: Advanced Organic • Polymer Chemistry (Catalytic Reactions, Multistep Synthesis, Precise Synthesis, Reaction Mechanism), Advanced Physical Chemistry (Kinetics, Molecular Structure), Advanced Inorganic • Analytical Chemistry (Specialized Problems in Inorganic and Analytical Chemistry)	
Chemical Engineering	Chamical	Specialized subject I	Select and answer four problems from the following subjects: Mass and Heat Balance, Fluids Engineering, Heat Transfer, Chemical Engineering Thermodynamics, and Chemical Reaction Engineering.	
Program	Chemical Engineering	Specialized subject II	In addition to the explanation of Chemical Engineering terms, select and answer three problems from the following subjects: Powder Technology, Mass Transfer, Applied Mathematics/Process Control Engineering, and Environmental Chemical Engineering.	
Electrical, Systems, and	Electrical, Systems, and Control Engineering	Specialized subject I	Answer three problems about linear algebra, infinitesima calculus, and probability and statistics.	
Control Engineering Program		Specialized subject II	Select and answer three questions that you select from problems about electric circuit theory, control engineering, electronics circuit, logic circuit, mathematical programming, ordinary differential equations.	
	gineering Mechanical Engineering	Specialized subject I	 Mathematics (linear algebra, differentiation and integration, differential equations, vector calculus) Mechanics of Materials (stress and strain, tension and compression, torsion, bending of beams, combined stress, stress analysis based on energy principles) Mechanical Vibrations (vibration of single- and multi-degree-of-freedom systems, transient vibration, vibration isolation) 	
Mechanical Engineering Program		Specialized subject II	Select three of the following four subjects. • Mechanical Materials (crystalline structure, equilibrium diagram, plasticity, diffusion, heat treatments, microstructures, mechanical properties of steels) • Thermodynamics (basic concepts and laws, ideal gas and real gas, cycle) • Fluid Mechanics (physical properties of fluids, fluid statics, momentum conservation, irrotational flow, viscous flow, boundary layer) • Control Engineering (classical control)	
Transportation and	vehicle and		 Mathematics (linear algebras, differential and integral calculus, differential equation and vector analysis) Dynamics (particle and mass system dynamics, rigid-body dynamics) 	
Environmental Systems Program	Environmental Systems Engineering	Specialized subject II	 Fluid Mechanics (fluid statics, Bernoulli's theorem, momentum theorem, potential flow) Material and Structural Mechanics (cross sectional properties, sectional force, stress and strain, torsion, buckling, energy principles, statically determinate structure, statically 	

			indeterminate structure)
	Building Engineering	Specialized subject I	Fundamental problems in Building Engineering (including Building Materials), Architectural Planning (including Urban Planning and Architectural Project), Architectural Environments (including Building Services), and Architectural History and Design Theory.
		Specialized subject II	Specialized problems in Building Engineering (including Building Materials).
Architecture Program	Architecture	Specialized subject I	Fundamental problems in Building Engineering (including Building Materials), Architectural Planning (including Urban Planning and Architectural Project), Architectural Environments (including Building Services), and Architectural History & Design Theory.
		Specialized subject II	Specialized problems in Architectural Planning (including Urban Planning and Architectural Project), Architectural Environments (including Building Services), and Architectural History & Design Theory.
Civil and Environmental Engineering Program	Civil and Environmental Engineering	Specialized subject I Specialized subject II	 Select one of the following six subjects, which must be registered in the application: Structural Engineering (strength of material, structural mechanics, and energy principles) Concrete Engineering (materials for concrete, properties of fresh and hardened concrete, and concrete structure) Geotechnical Engineering (soil mechanics, design of earth structures, and geotechnical disaster mitigation) Sanitary and Environmental Engineering (water chemistry, water supply and sewerage systems, microbial ecology, and kinetics) Hydraulics (conservation laws of momentum and energy, laminar and turbulent flows, and flows in open channels and conduits) Infrastructure and Transportation Planning (city planning and transportation demand forecasting) Essay A: Examination on the applicant's knowledge and thinking capacity on Civil and Environmental Engineering Essay B: Review of previous studies regarding desired research topic ※A list of reviewed papers is required to be submitted at the examination. The list must conform to the format shown at the following URL. URL: http://home.hiroshima-u.ac.jp/civil/admission/references.doc
	ics and Data Program Informatics and Data Science Si	Specialized subject I	Answer four problems about the following subjects: 1. Linear Algebra, 2. Advanced Calculus and Ordinary Differential Equations, 3. Probability and Statistics, 4. Discrete Mathematics. Select three problems from the following four subjects:
Informatics and Data Science Program		Specialized subject II	1. Information Theory, 2. Algorithms and Data Structures, 3. Programming Language, 4. Computer Architecture and Digital Circuits. In addition, you will have to answer one more problem which evaluates your knowledge and problem solving skills in the area of Informatics and Data Science.
Smart Innovation Program (Applied Chemistry)	Applied Chemistry	Specialized subject I	Basic Organic • Polymer Chemistry (Basic Organic and Polymerization Reactions, Acids and Bases, Structure (Resonance, Stereochemistry of Organic Compounds Including Polymers, Isomers), Basic Physical Chemistry (Equilibrium, Quantum), Basic Inorganic • Analytical

			Chemistry (Fundamental Problems in Inorganic and Analytical Chemistry)
		Specialized subject II	Select one of the following three subject groups: Advanced Organic • Polymer Chemistry (Catalytic Reactions, Multistep Synthesis, Precise Synthesis, Reaction Mechanism), Advanced Physical Chemistry (Kinetics, Molecular Structure), Advanced Inorganic • Analytical Chemistry (Specialized Problems in Inorganic and Analytical Chemistry)
Smart Innovation Program	Electrical,	Specialized subject I	Answer three problems about linear algebra, infinitesimal calculus, and probability and statistics.
(Electrical, Systems, and Control Engineering)	Systems, and Control Engineering	Specialized subject II	Select and answer three questions that you select from problems about electric circuit theory, control engineering, electronics circuit, logic circuit, mathematical programming, ordinary differential equations.

Quantum Matter Program

1.Admission Policy

[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.

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" (pages 5-6). Download the specified forms (7) from the web site of the Graduate School of Advanced Science and Engineering.

speci	iffed 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 university or the dean of the faculty from which the applicant graduated.			
2	Certificate of graduation or certificate of expected graduation	Issued by the president of the university or the dean of the faculty from which the applicant graduated. If you are a graduate, make sure that the certificate includes information about your degree. The applicant who has graduated or is expected to graduate from a university in China (excluding that in Taiwan, Hong Kong, and Macao) is required to obtain and submit the following document: Graduate Prospective Graduate * 教育部学历证书电子注册备案表* * 學址证书 * 学址(硕士)学位证书 * Obtain the document for which the Web authentication will be valid as of Tuesday, August 11, 2020 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	 Only for the applicant who falls under the category of the item (2) above. 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	Score certificate of TOEIC® or TOEFL®	Submit the original score certificate of TOEIC® public test, TOEIC®-IP, TOEFL®-PBT, or TOEFL®-iBT Refer to Caution 3 below for details.			

5	Copy of residence card	Only for foreign applicants residing in Japan.	
3	copy of residence card	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) It is required to attach the English or Japanese translation to the application document written in the other language.

(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) Regarding use of TOEIC® or TOEFL® scores in a written foreign language (English) examination.

- ① Quantum Matter Program will use the scores of either of the following five examinations listed in the table ② below in place of a written foreign language (English) examination.
- ② Valid Examination

Examination Name	Original Score Certificate to be Submitted (The Original Only)	
TOEIC® public test	Official Score Certificate	
TOEIC® IP	Score Report	
TOEFL PBT®	Examinee's Score Record	
TOEFLiBT®	Examinee's Score Record	
TOEFL ITP®	Score Report	

- ③ 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.
- ④ 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 TOEIC® or TOEFL® later. Subsequently the applicant must submit the score certificate by 13:00, Thursday, August 27, 2020 to the Student Support Office (Graduate Program), Graduate School of Science.
- ⑤ 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 Program), Graduate School of Science.
- ⑥ The applicant who does not submit their score certificate of TOEIC® or TOEFL® 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 TOEIC® or TOEFL® scores), and the academic transcript will be comprehensively evaluated.

(2) Evaluation Criteria

[Written Examination] Basic subject (max. 100 points); specialized subject (max. 400 points)

Questions to measure basic academic abilities and scientific reasoning sufficient to learn in the graduate school.

[Oral Examinaion] Motivation, aptitude for the desired subject of study and basic academic abilities will be evaluated in three-level evaluation (A, B, C).

[English] max. 100 points (converted from TOEIC® or TOEFL® scores)

(3) Written Examination and Oral Examination Schedule

7	Written Examination	Oral Examination	
Thursday August 27	Basic subject	9:00-10:30	Eriday, Avgust 29, 12,20
Thursday, August 27	Specialized subject	13:30-16:30	Friday, August 28, 13:30-

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

(Caution 2) Details of the oral examination will be notified on the day.

(4) Contents of Written Examination

Field ※	Category	Examination Subjects
	Basic subject	Mathematics
		Classical Mechanics
Dlavaica		• Electromagnetism
Physics	Specialized subject	Quantum Mechanics
		Statistical Thermodynamics
		(answer four questions above)
	Basic subject	Mathematics
		Electromagnetism
Electronic		Electronic Circuits
Engineering	Specialized subject	Semiconductor Engineering
		Quantum Mechanics
		(answer three out of the above questions)

^{*} Please specify either Physics or Electronic Engineering field on the "Registration of selected subject for Applicants of Quantum Matter Program"

Transdisciplinary Science and Engineering Program (Environmental and Natural Sciences)

1. Admission Policy

[The 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.

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" (pages 5-6). 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 president of the junior college, or the president of the college of technology from which the applicant graduated. 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			
4	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 category of the item (2) above. 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.		
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).	
8	Score certificate of English language ability examination or Japanese-Language Proficiency Test	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 which was held after April 1, 2017 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. *Applicants who are unable to submit any score certificate due to the suspension of language ability examination because of COVID-19 should contact the corresponding Support Office in advance. Contact Period: no later than Friday, June 19, 2020	
9	Approval Notice of Application Eligibility Evaluation	Only for the applicant who has successfully passed a preliminary evaluation of application eligibility under the category of the item (9) or (10) above. 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) It is required to attach the English or Japanese translation to the application document written in the other language.

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

3. 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, August 27, 9:00 – 11:00	Friday, August 28, 13:30
	(approximately 30 minutes for each examinee)

(Caution) Details of the oral examination will be notified on the day.

Transdisciplinary Science and Engineering Program (Development Science)

1. Admission Policy

[The 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.

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" (pages 5-6). Download the specified forms (1, 5 and 6) from the web site of the Graduate School of Advanced Science and Engineering.

1	Registration of selected subject for Applicants of		
	Transdisciplinary Science and Engineering Program (Development Science)	Use the specified form to prepare.	
2	Academic transcript	Issued by the president of the university or the dean of the faculty from which the applicant graduated. 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. If the certificate does not indicate evaluation criteria of grading, submit another document issued by the university that includes evaluation criteria of grading.	
3	Certificate of graduation or certificate of expected graduation		

4	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 category of the item (2) above. • 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.		
5	Research plan	Use the specified form to	Use the specified form to prepare.	
6	Reasons for Application	Use the specified form to prepare.		
7	Letter of approval for taking the entrance examination	The applicant who is currently enrolled in a graduate school	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	
		The applicant who works in private company, international organization, governmental organization, local government, or educational organization	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.	
8	Japanese Government (MEXT) Scholarship Certificate	Only for Japanese Government (MEXT) Scholarship recipient's		
9	Certificate of Japanese language ability (The original only)	 The score of one of the following Japanese language tests <u>taken within 2</u> <u>years before the examination date</u>: (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. 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. 		
10	Certificate of English language ability (The original only)	 The score certificate of one of English language tests, including TOEIC(L&R), TOEFL-iBT, TOEFL-PBT, TOEFL-CBT, and IELTS. TOEIC-IP(L&R) or TOEFL-ITP results can be accepted if they are held in a university or an equivalent educational institution. For the scores of the tests held by non-educational organizations, please confirm with Student Support office beforehand. 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. 		
11	Copy of residence card	Only for foreign applican	ts residing in Japan.	
12	Return envelope	Use standard envelope (on the back side of the card, make a two-sided copy. 12cm×23.5cm in size) and fill out your address and up to the front (for sending the Examination Card).	

(Caution 1) It is required to attach the English or Japanese translation to the application document written in the other language.

(Caution 2) The applicant who has successfully passed a preliminary evaluation of application eligibility need not submit the document No. 2, 3, 5 and 6 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.

3. 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 level (A, B, C), including foreign language, the academic transcript, Reasons for Application, and a published thesis about international cooperation.

(3) Written Examination and Oral Examination Schedule

Written Examination	Oral Examination
Thursday, August 27, 9:00 – 11:00	Friday, August 28, 13:30 -

(Caution) Details of the oral examination will be notified on the day.

(4) Subjects of Written Examination

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

Subject	Scope and Subject Name
Dagia gubiant	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
Specialized	O Functional Plant Sciences
subject	○ Energy Science and Technology
	○ Ecology
	Environmental Health Science
	○ Urban Environmental Science

V Application procedure

(1) Application method

Apply via internet and submit the application documents.

- ① Input the information regarding the application on the web site.
- 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 web site 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 ①, ②, and ③described under the above item (1) during the application period.

Friday, July 17, 2020 - Monday, July 27, 2020 no later than 17:00

In the case of ③(submission via mail), the documents must be sent in a registered mail and reach us no later than Monday, July 27. The documents that will be received after the date shall be accepted only when it is postmarked no later than Friday, July 24.

(3) Application via internet

◆ Inquiry regarding the system

Online application help desk (only Japanese language available)

Opened: 10:00 - 18:00 (closed in Saturday, Sunday, and national holidays from April to the end of July)

Tel: +81-50-3786-5124

UCARO Office (only Japanese language available)

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

Tel: +81-50-3786-5524

○ About unclear points regarding the entrance examination, ask the inquiry contact indicated under the section "I Programs and Number of Students to be Admitted" (pages 5 - 6).

Opened: 8:30 - 17:00 (closed in 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)

Complete the following 8 steps during the application period.

Step 1: Access the Online Application System.

Access the following web page:

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 (free for charge) is required for application.

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 (applicable to the admission examination category for which it is required).

The applicant who applies to the category for which the entrance examination fee is exempted must ask the inquiry contact indicated under the section "I Programs and Number of Students to be Admitted" (pages 5 - 6) to obtain over the 8 digits of alphanumeric characters 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.

Step 5: Upload your photograph.

Follow the instruction shown on the screen to upload the digital data of your photograph (File format: JPEG). It is not allowed to submit the photograph via mail.

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

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

- 1. Credit card: VISA, MasterCard, JCB, AMERICAN EXPRESS, Diners Club
- 2. Convenience store: 7-ELEVEN, Lauson, 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 (intend to) apply for Extension of Scholarship Benefit Period are exempted from the application fee. In case of those who are enrolled in the university other than Hiroshima University, please submit the documents (issued by the university, arbitrary form) containing the following items:
 - (1) You are enrolled as a MEXT Scholarship student in the university.
 - (2) You intend to apply for Extension of Scholarship Benefit Period.
- The entrance examination fee once paid will not be returned for any reason after the application is accepted. In either case of the following items (1) and (2), the entrance examination fee once paid will be returned after deducting the transfer fee. We will mail the form of the "Refund Claim" for refund of the examination fee. Fill in the required information such as the "application number," "name in kana letters," "name," "phone number," "address," "payee account information," and "reason of refund claim," imprint your seal on the form, and mail the form to the inquiry contact indicated in the section "I Programs and Number of Students to be Admitted" (pages 5 6) before Friday, February 26, 2021.

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 received.
- (2) The payment of the examination fee is duplicated.

Step 7: Complete the registration of the application information.

Write down the application number of 6 digits that is shown on the screen.

Step 8: Deliver or mail the application documents.

For the submission address, refer to the inquiry contact described in the section "I Programs and Number of Students to be Admitted" (pages 5 - 6).

The contact desk is opened from 8:30 to 17:00 during the application period for the applicant who delivers the application documents. The contact desk is closed in Saturday, Sunday, and national holidays.

In the case of submission via mail, the documents must be sent in a registered mail and reach us no later than Monday, July 27. The documents that will be received after the date shall be accepted only when it is postmarked no later than Friday, July 24.

Indicate the phrase "Application documents for ooo Program of Graduate School of Advanced Science and Engineering are enclosed." in red on the front surface of the envelope.

(4) Application documents

Required application documents vary for each Program.

Refer to the section of the program to which the applicant intends to apply in the section "IV Required Documents and Selection Process" (page 11).

(5) Submission address for application documents

Refer to the inquiry contact described in the section "I Programs and Number of Students to be Admitted" (pages 5 - 6).

VI Miscellaneous

1. Instruction for Application

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

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

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

This consultation is held to allow the Graduate School to obtain information beforehand. It will not affect the result of the selection.

- (2) The application document 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 will not be accepted as the certificate without the original certification.
- (4) The score certificate of TOEIC®/TOEFL® submitted for the application for Physics Program, Earth and Planetary Systems Science Program, Basic Chemistry Program, Engineering Programs & Informatics and Data Science Program, and Quantum Matter Program will be used for the following purposes.
 - 1)Entrance examination
 - ② Statistics and analysis of language ability of applicants
- (5) The admission approval shall be withdrawn when it is found that the submitted documents contain any false indication.
- (6) The applicant who is expected to graduate his/her school when he/she applies to our University shall be considered not to be eligible for admission when he/she cannot graduate from the school before the admission date.

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 which the following information is described (the format can be arbitrarily selected) to the inquiry contact described in the section "I Programs and Number of Students to be Admitted" (pages 5 - 6) to arrange a consultation.

- A. Period for the consultation: Monday, July 6 Friday, July 10, 2020
- 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 graduated, Program for which the applicant will apply, and the name of faculty who is expected to be the applicant's mentor
 - Type and severity of the disorder (submit a medical certificate issued by a doctor if the applicant is in treatment)
 - ④ Measures that the applicant asks our University to take for the examination
 - (5) Measures that the applicant asks our University to take for the education in it
 - 6 Specific measures that were taken in the university from which the applicant 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 procedure. After the successful applicant enrolls, Hiroshima University will manage the information for 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 student's choice). We do not use the information for the other purpose and provide the other person than our concerned faculties and staffs.

4. Admission Procedure

(1) Documents for admission procedure

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

A part of the admission procedure is processed in UCARO system.

(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 2020. When the amount is revised at the time of admission or during the student is in the university, it is required to pay the revised amount.

5. Application for Publication of Examination Results

(1) The information regarding the result of the entrance examination for this Graduate School listed below is disclosed only to the person who applies to the examination (hereinafter referred to as the "applicant for disclosure").

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

- (2) The examination result (personal information) will be disclosed by delivering it on the inquiry contact or sending it via mail.
- (3) The applicant for disclosure is required to enter the required information in the form of "Application for Entrance Examination Result Disclosure" which can be downloaded from the web site of the Graduate School of Advanced Science and Engineering and directly send or mail it to the student support office of the Program to which the applicant applied.

Also, it is required to present the admission ticket to allow to identify the applicant.

- (4) The Application for Entrance Examination Result Disclosure will be accepted during the period from October 1, 2020 to November 30, 2020 for October 2020 admission and it will be accepted during the period from April 1, 2021 to May 31, 2021 for April 2021 admission.
- (5) The result of the disclosure 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 HU 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 fee for the entrance examinations in the 2020 academic year, to alleviate the economic burden on and to secure educational opportunities for applicants affected by the disasters.

The applicant who wishes to be exempted from the entrance examination fee must contact in advance "Contact & Submission address for Application Documents" listed in the section "I Programs and Number of Students to be Admitted" (pages 5 - 6).

1 Examinations to which the Special Measure is Applied

The entrance examinations held in the 2020 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 2016 Kumamoto Earthquake
- (2) The Heavy Rain Event of July 2018
- (3) 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 section 3 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 details of the areas covered by the Disaster Relief Act, refer to the following web site. http://www.bousai.go.jp/taisaku/kyuujo/kyuujo_tekiyou.html

5 Application

The applicant must contact in advance "Contact & Submission address for Application Documents" listed in the section "I Programs and Number of Students to be Admitted" (pages 5 - 6), 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 web site)
 - https://www.hiroshima-u.ac.jp/nyushi/news/1058
- (2) Disaster victim certificate (a copy is acceptable) (For the applicant who falls under the condition of item (1) of the section 4 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 item (2) of the section 4 above)

7 Application Process (Internet Application)

Refer to the PDF file available from the following web site. https://www.hiroshima-u.ac.jp/system/files/142664/menjo_r3.pdf

8 Contact

Refer to "Contact & Submission address for Application Documents" listed in the section "I Programs and Number of Students to be Admitted" (pages 5 - 6).