October 2023 Admission and April 2024 Admission (A Term)

Graduate School of Advanced Science and Engineering

(Master's Course)

Division of Advanced Science and Engineering

General Selection Application Guidebook

May 2023

HIROSHIMA UNIVERSITY

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 a good grounding in relevant subjects:

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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

2. Admission Policy of each Program

[Mathematics Program]

The Mathematics Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

[Physics Program]

The Physics Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

[Earth and Planetary Systems Science Program]

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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 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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

[Chemistry Program]

The Chemistry Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

① Basic knowledge and ability of comprehension, examination, and presentation regarding the 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 as researchers and engineers in 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 chemistry as well as a wide range of intelligence; and
④ Common sense and ethics required for a member of society.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

[Applied Chemistry Program]

The Applied Chemistry Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through

①

[Civil and Environmental Engineering Program]

The Civil and Environmental Engineering Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

[Informatics and Data Science Program]

The Informatics and Data Science Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

[Smart Innovation Program]

The Smart Innovation Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

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.

In order to admit such individuals, Graduate School of Advanced Science and Engineering selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using oral, written, and/or external examinations.

[Quantum Matter Program]

The Quantum Matter Program seeks students who have the following aspirations and motivation and have a good grounding in relevant subjects:

①

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 October 2023 admission and April 2024 admission to the Master's Courses as indicated below.

【October 2023 Admission】

Division	Program	Capacity	Admission capacity	Venue for examination	Contact Submission address for application documents
Division of Advanced Science and Engineering	Mathematics Program	436	Several students	School of Engineering Hiroshima University	Support Office for the fields of Science 739-8526 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7309, 4468
	Physics Program				
	Earth and Planetary Systems Science Program				
	Chemistry Program				
	Applied Chemistry Program				Support Office for the fields of Engineering 739-8527 1-4-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7518, 7519
	Chemical Engineering Program				
	Electrical, Systems, and Control Engineering Program				
	Mechanical Engineering Program				
	Transportation and Environmental Systems Program				
	Architecture Program				
	Civil and Environmental Engineering Program				
	Informatics and Data Science Program				
	Smart Innovatio Program (Applied Chemistry)				
	Smart Innovatio Program (Electrical, Systems, and Control Engineering)				
	Quantum Matter Program				Support Office for the fields of Science (AdSM) 739-8530 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7008, 7009
	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: 082-424-6316
	Transdisciplinary Science and Engineering Program (Development Science)				Support Office for the fields of International Development and Cooperation 739-8529 1-5-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-4680

(Caution)

・The selection for October 2023 admission will be held for all the Programs.

・Consult with the faculty who is expected to be your academic advisor about your research theme before applying.
For the information regarding faculty of the Graduate School of Advanced Science and Engineering refer to the following website.
URL: https://www.hiroshima-u.ac.jp/en/adse/staff

【April 2024 Admission (A Term)】

Division	Program	Capacity	Admission Capacity	Examination Location	Contact Submission address for application documents
Division of Advanced Science and Engineering	Mathematics Program	436	256	School of Engineering Hiroshima University	Support Office for the fields of Science 739-8526 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7309, 4468
	Physics Program				
	Earth and Planetary Systems Science Program				
	Chemistry Program				
	Applied Chemistry Program				Support Office for the fields of Engineering 739-8527 1-4-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7518, 7519
	Chemical Engineering Program				
	Electrical, Systems, and Control Engineering Program				
	Mechanical Engineering Program				
	Transportation and Environmental Systems Program				
	Architecture 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				Support Office for the fields of Science (AdSM) 739-8530 1-3-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-7008, 7009
	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: 082-424-6316
	Transdisciplinary Science and Engineering Program (Development Science)				Support Office for the fields of International Development and Cooperation 739-8529 1-5-1 Kagamiyama, Higashi-Hiroshima Tel: 082-424-4680

(Caution)

・The selection for April 2024 admission will be held for all the Programs.

・Consult with the faculty who is expected to be your academic advisor about your research theme before applying. For the information regarding faculty of the Graduate School of Advanced Science and Engineering refer to the following website.

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

Outline of Entrance Examination

1. Schedule of the Entrance Examination

<table>
<tr><th>Application period</th><th>Date of the entrance examination</th><th>Examination subject</th><th>Examination result announcement</th></tr>
<tr><td rowspan="3">Friday, July 14, 2023 –
Friday, July 21, 2023</td><td>Thursday, August 24, 2023, 9:00-</td><td>Written Examination</td><td rowspan="3">Planned to be 12:00-,
Friday, September 1, 2023</td></tr>
<tr><td>Friday, August 25, 2023, 9:00-</td><td>Oral Examination</td></tr>
<tr><td colspan="2">(Preliminary date: Saturday, August 26, 2023)</td></tr>
</table>

（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. 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/adse).

2. Application Eligibility

Refer to the section " Application Eligibility".

Application Eligibility

1. Application Eligibility

Those who meet or are expected to meet by September 30, 2023 for October 2023 admission, and by March 31, 2024 for April 2024 admission 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, June 26, 2023 - Friday, June 30, 2023 no later than 17:00

(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

Submit all the documents listed below at once during the application period to the respective Support Offices indicated in the section " Programs and Number of Students to be Admitted".

【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.

Application Documents and Selection Process

Note that 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	Science Programs	Pages 16 to 18
Physics Program		
Earth and Planetary Systems Science Program		
Chemistry Program		
Applied Chemistry Program		
	Engineering Programs & Information Science Programs	

【Academic transcript】Scale of 1 to 3

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

<table>
<tr><th>Program Name</th><th colspan="2">Written Examination</th><th>Oral Examination</th></tr>
<tr><td>Mathematics Program</td><td>Thursday, August 24</td><td>Specialized subject 9：00 - 12：00
13：30 - 16：30</td><td rowspan="4">Friday, August 25, 9:00 -</td></tr>
<tr><td>Physics Program</td><td rowspan="3">Thursday, August 24</td><td rowspan="3">Specialized subject 9：00 - 12：00</td></tr>
<tr><td>Earth and Planetary Systems Science Program</td></tr>
<tr><td>Chemistry Program</td></tr>
</table>

(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 when sending the examination card and on the examination day.

(4) Contents of Written Examination

Program Name	Contents
Mathematics Program	Basic questions concerning mathematics
Physics Program	Four questions concerning Classical Mechanics, Electromagnetism, Quantum Mechanics, Statistical Thermodynamics
Earth and Planetary Systems Science Program	Six questions concerning earth and planetary systems science; four questions must be chosen and answered.
Chemistry Program	Basic questions from respective branches of chemistry

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. 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 " Programs and Number of Students to be Admitted". Download the specified forms (4, 7, 8 and 10) from the website of the Graduate School of Advanced Science and Engineering.

<table>
<tr><th>No</th><th>Document name</th><th>Note</th></tr>
<tr><td>1</td><td>Academic Transcript</td><td>Issued by the president of the university or the dean of the faculty the applicant attended or is attending.
The applicant who graduated or is expected to graduate from the advanced course in a college of technology must submit the academic transcript for both the regular course and the advanced course.
The certificate must be the original or the certified photocopy. The uncertified photocopy will not be accepted.</td></tr>
<tr><td>2</td><td>Certificate of Graduation or Certificate of Expected Graduation</td><td>Issued by the president of the university or the dean of the faculty the applicant attended 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:
<table>
<tr><th>Graduate</th><th>Prospective graduate</th></tr>
<tr><td>历证书电 备 *
毕业证书
证书</td><td>线验证报 *
毕业预 证书</td></tr>
</table>
*: Obtain the document through " (CHSI)".
There should be 15 or more days left until the expiration date of the online verification at the time of its submission.
https://www.chsi.com.cn/xlcx/bgys.jsp</td></tr>
<tr><td>3</td><td>Certificate of Expected Application for the Conferment of a Bachelor’s Degree or Certificate of a Bachelor’s Degree</td><td>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.</td></tr>
</table>

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5	Score Certificate of English-language Proficiency	Submit the original score certificate of either of the following examinations which was held in the period from May 2021 to the time of application. (The submitted score certificate will be returned to the applicant after confirmation). TOEIC® Public Test L&R TOEIC®-IP L&R (including College TOEIC®) TOEFL®- ITP TOEFL®-iBT IELTS Academic Cambridge English Qualifications * Check "3. Application Requirements" in the section " Application Eligibility". Application without submission of the score certificate will not be accepted.
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 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	Only for the applicant for Civil and Environmental Engineering 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), 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 Score certificate of English-language proficiency)

【Academic transcript】 Scale of 1 to 4

(3) Schedule of Written Examination and Oral Examination

Program Name	Written Examination			Oral Examination
Applied Chemistry Program	Thursday, August 24	Specialized	9：00 - 12：00	Friday, August 25, 9:00-
		Specialized	13：30 - 15：00	
Chemical Engineering Program	Thursday, August 24	Specialized	9：00～12：00	
		Specialized	13：30～16：30	
Electrical, Systems, and Control Engineering Program	Thursday, August 24	Specialized	9：00～12：00	
		Specialized	13：30～16：30	
Mechanical Engineering Program	Thursday, August 24	Specialized	9：00～12：00	
		Specialized	13：30～16：30	

		Specialized sub	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 Program	Chemical Engineering	Specialized	Select and answer four problems from the following subjects: Mass and Heat Balance, Fluids Engineering, Heat Transfer, Chemical Engineering Thermodynamics, and Chemical Reaction Engineering.
		Specialized	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 Control Engineering Program	Electrical, Systems, and Control Engineering	Specialized	Answer three problems about linear algebra, infinitesimal calculus, and probability and statistics.
		Specialized	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.
Mechanical Engineering Program	Mechanical Engineering	Specialized	・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)
		Specialized	Select three of the following four subjects. ・Mechanical Materials (crystalline structure, equilibrium diagram, plasticity, diffusion, heat treatments, microstructures, mechanical properties of steels) ・Thermodynamics (The first and second laws, Heat and entropy, Equations of state, Thermodynamic potentials, Exact differential, Ideal gas, Gas power cycles, Phase change, Phase equilibrium, Moist air) ・Fluid Mechanics（Statics, Conservation laws of mass and momentum, Bernoulli's theorem, Hydrometry, Shear stress, Couette flow, Hagen–Poiseuille flow, Potential flow) ・Control Engineering (classical control)
Transportation and Environmental Systems Program	Vehicle and Environmental Systems Engineering	Specialized	・Mathematics（linear algebras, differential and integral calculus, differential equation and vector analysis) ・Dynamics (particle and mass system dynamics, rigid-body dynamics)
		Specialized	・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)
Architecture Program	Building Engineering	Specialized	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	Specialized problems in Building Engineering (including Building Materials).

	Architecture	Specialized	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	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	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)
		Specialized subj	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:https://www.hiroshima-u.ac.jp/system/files/209276/references.doc
Informatics and Data Science Program	Informatics and Data Science	Specialized	Answer four problems about the following subjects: 1. Linear Algebra, 2. Advanced Calculus and Ordinary Differential Equations, 3. Probabilitytheory, 4. Discrete Mathematics.
		Specialized	Select three problems from the following six 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. 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	Basic Organic • Polymer Chemistry (Basic Organic and Polymerization Reactions, Acids and Bases, Structure (Re

Smart Innovation Program (Electrical, Systems, and Control Engineering)	Electrical, Systems, and Control Engineering	Specialized	Answer three problems about linear algebra, infinitesimal calculus, and probability and statistics.
		Specialized	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. 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 " Programs and Number of Students to be Admitted". Download the specified forms (7) from the website of the Graduate School of Advanced Science and Engineering.

<table>
<tr><th>No</th><th>書類等名</th><th>摘要</th></tr>
<tr><td>1</td><td>Academic Transcript</td><td>Issued by the president of the university or the dean of the faculty the applicant attended or is attending.</td></tr>
<tr><td>2</td><td>Certificate of Graduation or Certificate of Expected Graduation</td><td>Issued by the president of the university or the dean of the faculty the applicant attended or is attending.
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:
<table><tr><th>Graduate</th><th>Prospective graduate</th></tr><tr><td>历证书电 备 *
毕业证书
证书</td><td>线验证报 *
毕业预 证书</td></tr></table>*: Obtain the document through " (CHSI)".
There should be 15 or more days left until the expiration date of the online verification at the time of its submission.
https://www.chsi.com.cn/xlcx/bgys.jsp</td></tr>
<tr><td>3</td><td>Certificate of Expected Application for the Conferment of a Bachelor's Degree or Certificate of a Bachelor's Degree</td><td>Only for the applicant who falls under the application eligibility of (2) in the ion Eligibility".
・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.</td></tr>
<tr><td>4</td><td>Certificate of English language proficiency</td><td>Submit the original score certificate of either of the following examinations.
Refer to Caution 3 below for the details.
・TOEIC® Public Test
・TOEIC®-IP
・TOEFL®-PBT
・TOEFL®-iBT
・TOEFL®- ITP
・IELTS®
・Cambridge English Qualifications</td></tr>
<tr><td>5</td><td>Copy of Residence Card</td><td>Only for foreign applicants residing in Japan.
If your address is written on the back side of the card, make a two-sided copy.</td></tr>
<tr><td>6</td><td>Return Envelope</td><td>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).</td></tr>
<tr><td>7</td><td>Registration of selected subject for Applicants of Quantum Matter Program</td><td>Use the specified form to prepare.</td></tr>
</table>

(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, Thursday, August 24, 2023 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.

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.

2. 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】 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 the score certificate of English language proficiency)

【Submitted documents】 Three-level evaluation (A, B, C) is performed.

(3) Schedule of Written Examination and Oral Examination

Written Examination			Oral Examination
Thursday, August 24	Specialized subject	9：00～12：00	Friday, August 25, 9:00-

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

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

(4) Contents of Written Examination

	Category	Examination Subjects
Physics	Specialized subject	・Classical Mechanics ・Electromagnetism ・Quantum Mechanics ・Statistical Thermodynamics (answer four questions above)
Electronic Engineering	Specialized subject	・Electromagnetism ・Electric Circuits ・Semiconductor Engineering ・Quantum Mechanics (answer four questions above)

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, 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 " Programs and Number of Students to be Admitted". Download the specified forms (1, 2, 3, 4 and 8) from the website of the Graduate School of Advanced Science and Engineering.

Each certificate (except "Language Test Score Certificate") must be the original. However, if a new certificate is not issued, a certified copy of the original (certified by the official organization (preferably the issuing organization) as being the same as the original) will be accepted.

Any forgery or falsification of the documents and/or academic fraud would result in cancellation of acceptance even after passing examination and/or completing enrollment procedure.

<table>
<tr><th>No</th><th>Document name</th><th>Note</th></tr>
<tr><td>1</td><td>Personal History</td><td>Use the specified form to prepare.</td></tr>
<tr><td>2</td><td>Registration of Selected Subject for Applicants of Transdisciplinary Science and Engineering Program</td><td>Use the specified form to prepare.</td></tr>
<tr><td>3</td><td>Research Plan</td><td>Use the specified form to prepare.
A detailed research plan written in either Japanese (about 2,000 characters) or English (about 1,000 words)</td></tr>
<tr><td>4</td><td>Common Assignment</td><td>Describe a future vision created by advancing your research further through a transdisciplinary approach in relation to your research plan in the specified form in Japanese (about 2,000 characters) or English (about 1,000 words), which should be understandable to non-specialists.</td></tr>
<tr><td>5</td><td>Academic Transcript</td><td>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 has completed 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 the evaluation criteria.</td></tr>
<tr><td>6</td><td>Certificate of Degree Awarded or Certificate of (Expected) Graduation</td><td>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 has completed a graduate school must submit the certficate for both the undergraduate university and the graduate school.
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:
<table>
<tr><th>Graduate</th><th>Prospective graduate</th></tr>
<tr><td>历证书电 备 *
毕业证书
硕 证书</td><td>线验证报 *
毕业预 证书</td></tr>
</table>
*: Obtain the document through " (CHSI)".
There should be 15 or more days left until the expiration date of the online verification at the time of its submission.
https://www.chsi.com.cn/xlcx/bgys.jsp</td></tr>
</table>

7	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.	
8	Letter of Approval for Taking the Entrance Examination	The applicant who is currently enrolled in a graduate school	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
		The applicant who works in private company, international organization, governmental organization, local government, or educational organization	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.
9	Japanese Government (MEXT) Scholarship Certificate	Only for Japanese Government (MEXT) Scholarship recipients	
10	Language Test Score Certificate	TOEFL® or other equivalent English language test, or Japanese Language Proficiency Test or other equivalent Japanese language test. (Applicants whose first language is English are not required to submit this certificate.) If an applicant is unable to submit "Language Test Score Certificate", an official document made by the university which certifies that the medium of instruction in the institution which the applicant has attended/is attending is English will be accepted.	
11	Copy of Residence Card	All international applicants who are residing in Japan at the time of application must submit (double side).	
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).	

(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, 5 and 6 above.

(Caution 3) Submit a GRE General Test Official Score, if available. (The submission of the GRE score is optional.) The Official Score Report must be sent by ETS directly to Hiroshima University (Institution Code: 2358) no later than the submission period. (The Examinee Score Report sent to applicants from ETS is acceptable as well.)

2. Selection Process

(1) Basic Policy

Application documents and academic abilities (based on the Written Examination and the Oral Examination) will be comprehensively evaluated. The Oral Examination may include a language testing component.

(2) Evaluation Criteria

【Written Examination】 Specialized subject (max. 100 points)

In principle, the applicant who has marked higher than 60% will be accepted.

【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)
B	Good (Appropriate for Enrollment)
C	Poor (Inappropriate for Enrollment)

Step 3: Enter the Account (Exemption category only)

The applicant who applies for exemption from the entrance application fee must consult in advance with the respective Support Offices listed in the section " Programs and Number of Students to be Admitted" to obtain the alphanumeric characters of eight or more digits and enter them.

Step 4: Input your application data into the online application system

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

The applicant can choose the prospective academic supervisors 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 supervisors from the 1st choice to the 3rd choice (All Required), not their personal names.

Step 5: Upload your photo

Follow the instruction on the screen and upload a digital photo of yourself. (File format: JPEG)

* The uploaded photo, which will be used for identification at the examination, will be also used for your student ID card after enrollment. Therefore, please be sure to upload your photo that meet the on-screen precautions.

Once uploaded, your photo will not be allowed to be replaced.

A fee of JPY 1,000 will be charged for changing the content of your student ID card (photo and your name) after enrollment.

Step 6: Payment of entrance application fee (JPY 30,000)

Choose the method of payment from the following list.

1. Credit card: VISA, MasterCard, JCB, AMERICAN EXPRESS, Diners Club
2. Convenience store: 7-Eleven, LAWSON, MINISTOP, FamilyMart, Daily Yamazaki, Seicomart
3. Banking facilities' ATM [Pay-easy]
4. Online Banking

(Caution)

In addition to the entrance application fee, applicants need to pay the processing fee for use of the online application system (1,000 yen per application).

MEXT Scholarship students who have applied for (or intend to apply for) extension of scholarship payment period are exempted from the entrance application 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 application fee, once paid, will not be refunded for any reason.

However, in cases (1) and (2) below, the application fee is refundable after deducting the bank transfer fee. Therefore in such cases, please clearly write the "registration number", "name in kana letters", "name", "phone number", "address", "transfer destination information" and "reason for demand of refund" in the prescribed format given from the university and send it to the respective Support Offices listed in the section " rograms and Number of Students to be Admitted" by Thursday, February 22, 2024.

The processing fee for use of the online application system will not be repaid for any case.

(1) If the application documents have not been submitted, or if they have not been accepted

(2) If duplicate payments of the entrance application fee have been made in error

Step 7: Initial registration process complete (Your application is NOT completed yet.)

Write down **the Registration 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 Offices listed in the section " Programs and Number of Students to be Admitted".

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 Friday, July 21. The documents received after this time shall be accepted only when it is postmarked no later than Wednesday, July 19.

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

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 the faculties of the Graduate School of Advanced Science and Engineering, refer to the following website.
URL: https://www.hiroshima-u.ac.jp/en/adse/staff

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 will be used for the following purposes.

Entrance examination

Statistics and analysis of a 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 requested to submit the application form (in free format) which contains the following information to the respective Support Offices listed in the section " Programs and Number of Students to be Admitted" to arrange a consultation.

A. Period for the consultation: Monday, June 26 - Friday, June 30, 2023

B. Information to be described in the application

Name & address of the applicant (the phone number must be included)

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

Type and severity of the disability (submit a medical certificate issued by a doctor if the applicant is in treatment)

Measures to be taken for the entrance examination

Measures to be taken for education in the Graduate School

Specific measures that were taken in the university from which the applicant has graduated

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 the admission procedure. 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 purposes nor provide it to the person other than our concerned faculty and staffs.

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 2023. 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 score	Evaluation results of the Oral Examination and the application documents (scale assessment)

(2) The examination result (personal information) will be delivered on the respective Support Offices 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 Offices.
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 October 1, 2023 to November 30, 2023 for October 2023 admission, and the period from April 1, 2024 to May 31, 2024 for April 2024 admission.

(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.

Application Fees Exemption for Prospective Students to Enter Hiroshima University

Hiroshima University will implement special measures for exemption of Application Fees in AY 2023 in order to reduce the financial burden of those affected by natural disasters and secure opportunities for prospective students to enter the university.

If you wish to request exemption from the Application Fees, please be sure to contact the respective Support Offices

1. Type of Examinations Subject to Exemption

Entrance examinations conducted in AY 2023 for Schools, Graduate Schools, and Special Course of Special Support Education. (including examinations for re-enrollment and transfer)

2. Details of Exemption

Exemption of Application Fees

* The fees for disclosure of entrance examination results is also subject to exemption.

3. Disasters for Exemption

Any of the disasters that happened in or after August 2019 and to which the Disaster Relief Act was applied

* Entrance examinations subject to exemption from application fees are limite