The Frontier Development Program for Genome Editing

Doctoral Program for World-leading Innovative & Smart Education (WISE)
Hiroshima University

Application Guide for Admission

Special Selection for Applicants from Hiroshima University

(First Round of Applications)

October 2025/ April 2026 Enrollment

May 2025

HIROSHIMA UNIVERSITY

Admission Policy

The Frontier Development Program for Genome Editing of Hiroshima University expects to admit students who have the following aspirations and motivations, as well as the basic academic ability necessary to learn specialized expertise in this program.

Students who:

1. Are highly motivated to learn about genome editing technologies, and who have the basic academic ability in the areas of study related to fundamental biology, molecular science, biofunctional science, environmental science, biological resource science, biological production science, food science, biological engineering, medicine, pharmacology, dentistry, and health science;

2. Are willing to acquire expertise to make effective use of genome editing technologies, thereby developing their research capabilities to play an active role in a company;

3. Aim to create innovative technologies that will form the core of key industries, by acquiring the capability to develop new technologies (for genome alterations and delivery);

4. Aim to obtain the capability to flexibly adapt to changes in industrial structures as new industries emerge, by developing a sense of ethics as well as knowledge of social trends regarding genome editing-related regulations, etc.; and

5. Aim to acquire the qualities and capabilities needed to work as highly specialized professionals, through pursuing learning and research activities at the graduate school, based on their scientific and logical thinking ability and communication skills.

In order to admit such individuals, the Frontier Development Program for Genome Editing selects applicants through a multifaceted and comprehensive evaluation process based on its own Diploma Policy and Curriculum Policy, using document screening and interviews.

Program Overview

Life Science Course (5-year curriculum):

- In the first and second years, students will study specialized subjects in genome editing and subjects in genome editing related fields. In addition, students will acquire the genome editing technologies required for each area through basic genome editing training. These knowledge and skills will be assessed through written and oral examinations: Qualifying Examination 1 (QE1).
- In the third and fourth years, students will acquire advanced knowledge in genome editing, receive advanced practical training at partner institutions in Japan or abroad, or at companies participating in the Council of the Frontier Development for Genome Editing.
- At the end of the fourth year, as a result of special research, students are evaluated to see if they are eligible to apply for the Ph.D. degree in the Qualifying Examination 2 (QE2).
- Students are required to publish a peer-reviewed article in English to obtain the degree, which is also the requirement of the Final Examination (FE).

▶ This course is a five-year integrated degree program. (Transfer admission to the third year is also available.)
▶ Eligibility: 4-year undergraduate graduates, Master's graduates (for 3rd year transfer).

Medical Course (4-year curriculum):

- In the first and the first half of the second year, students will study specialized subjects in genome editing and subjects in genome medicine. In addition, students will acquire the genome editing technologies required for each area through basic genome editing training. These knowledge and skills will be assessed through written and oral examinations: Qualifying Examination 1 (QE1).
- In the third and fourth years, students will acquire advanced knowledge in genome editing, receive advanced practical training at partner institutions in Japan or abroad, or at companies participating in the Council of the Frontier Development for Genome Editing.
- At the end of the third year, as a result of special research, students are evaluated to see if they are eligible to apply for the Ph.D. degree in the Qualifying Examination 2 (QE2).
- Students are required to publish a peer-reviewed article in English to obtain the degree, which is also the requirement of the Final Examination (FE).

▶ This course is a four-year integrated degree program.
▶ Eligibility: 6-year undergraduate graduates, Master's graduates.

*** A student is required to fulfill the requirements for both their major in the Graduate School and the Frontier Development Program for Genome Editing simultaneously.**
*** In principle, the lectures of the specialized courses of the Frontier Development Program for Genome Editing will be available either live online or on-demand.**

As stated below, Hiroshima University seeks students wishing to enroll in the Frontier Development Program for Genome Editing in October 2025 and April 2026.

1. Number of Students to Be Admitted

Course		Number of Students to be Admitted	Remarks
5-year curriculum	Life Science Course	Several students	
	Life Science Course	Several students	Transfer admission to 3rd year
4-year curriculum	Medical Course	Several students	

2. Eligibility for Application

Those who satisfy one of the following eligibility requirements and who are going to belong to a research group of a faculty member listed in the "7. List of Program Members".

2-1. Eligibility for Application (Life Science Course)

(1) Those who have been admitted to the Division of Integrated Sciences for Life, Graduate School of Integrated Sciences for Life for October 2025 or April 2026 enrollment. Incidentally, those who fail to pass the selection process for this program will not lose their eligibility to be admitted to the Graduate School.

(2) Those who have applied for admission to the above graduate school for October 2025 or April 2026 enrollment. However, those who fail to pass the above graduate school entrance examination will lose their eligibility for application.

* Candidates and successful candidates of the Early Completion Course of the Doctoral Program for working people（社会人特別入試短期修了コース）of the Graduate School of Integrated Sciences for Life are not eligible to apply for this program.

2-2. Eligibility for Application (Medical Course)

(1) Those who have been admitted to the Division of Biomedical Sciences, Graduate School of Biomedical and Health Sciences for October 2025 or April 2026 enrollment. Incidentally, those who fail to pass the selection process for this program will not lose their eligibility to be admitted to the Graduate School.

(2) Those who have applied for admission to the above graduate school for October 2025 or April 2026 enrollment. However, those who fail to pass the above graduate school entrance examination will lose their eligibility for application.

3. Application Procedures

All applicants must consult the prospective advisor who has to be a faculty member listed in the "7. List of Program Members" regarding whether or not their planned research activities are appropriate for the program and obtain their consent before applying to a program.

(1) Application period

The application period shall run from July 29 to August 4, 2025 with a 5:00 p.m. (JST) deadline

*Office hours are from 8:30 a.m. to 5:00 p.m. for application submissions.

(2) Application documents

Document Name	Remarks
Application Form	Use the prescribed form. *see Note
Personal History	Use the prescribed form. *see Note
Research Plan	Use the prescribed form. *see Note Describe your research plans after admission to the program in no more than two pages. *Tables and figures can be inserted
(a) Photocopy of Examination Card or (b) Photocopy of acceptance letter issued by the Graduate School	(a) Those who have applied for admission to the Hiroshima University Graduate School: Submit a photocopy of Examination Card. (b) Those who have been admitted to the Hiroshima University Graduate School: Submit a photocopy of acceptance letter. *Applicants who are unable to submit either document by the end of the application period must contact the Collaboration Office "6. Inquiries and Submission".
Application Fee	Not required

(Note) Prescribed forms can be downloaded from the website below.

URL：https://genome.hiroshima-u.ac.jp/en/recruitment/index.html

(3) Submission of application documents

① Method of submission

By the end of the application period, applicants must submit their application documents in person or by post (by registered mail or any other method that provides a record of delivery). If submitting by post, applicants must mark the envelope in red "Application for the Frontier Development Program for Genome Editing".

Applications submitted after the deadline or incomplete will not be accepted.

② Where to submit

See "6. Inquiries and Submission".

(4) Other matters

① The content of the application documents must not be changed after submission.

② Submitted application documents will not be returned to applicants.

③ Personal information (name, date of birth, gender, etc.) collected on the application forms will be used only for the purpose of selecting and notifying successful applicants and for enrollment procedures. Such personal information will not be used for any other purpose and will not be seen by anyone other than University personnel. Subject to the conclusion of an agreement on the appropriate use of personal information, there may be cases where related tasks are outsourced to companies outside the University for the purpose of computer processing.

④ 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.

4. Selection Procedure and Announcement of Successful Applicants

(1) Admission decision

The admission decision will be made in a comprehensive manner, considering the results of the documentary review and the oral examination.

(2) Screening method

The examination consists of a review of the application documents and an oral examination* on the applicant's field of specialization, English language skills, etc.

Oral Examination Date: **August 27, 2025**
(Backup Date: **August 28, 2025**)

*Oral Examination

The oral exam will be conducted online using ZOOM in either Japanese or English. It will last approximately 15 minutes.

Detailed information, including the starting time, will be sent to each applicant.
Web connection will be tested prior to the exam. All applicants are responsible for preparing a suitable environment for the online exam, such as a quiet private room with a stable Internet connection.

(3) Announcement of successful applicants

Announcement expected at **10:00 a.m., September 22, 2025**
Successful applicants will be announced on the Frontier Development Program for Genome Editing webpage. Successful applicants will also receive letters sent by postal mail. As a general rule, we will not respond to any inquiries about selection results.
(URL: https://genome.hiroshima-u.ac.jp/en/recruitment/index.html)

5. Financial Support for Students *see Note 1

We currently offer financial support to students in the program as described in (1), (2), (3) and (4)below. This support is provided only during the standard course period.

(1) 50,000 yen per month will be provided for six months to up to three students who are recognized as having excellent academic performance and outstanding achievements in academic activities after enrollment. (Details of the application procedure will be announced after admission.) *see Note 2

(2) Free tuition will be provided for the third and later years of the Life Science Course and for all years of the Medical Course. (Some students may not be eligible due to their academic performance.) *see Note 2

(3) Ikenoue Student Dormitory is available with priority for two years after enrollment in the program. (*Boarding fee, common expenses, and utility fee (Approx. 6,700 yen to 16,200 yen) will be charged. If you serve as a dormitory floor leader and agree to participate in the management of the dormitory, or if your financial situation suddenly changes, you may request an extension of your stay in one-year terms.)
- Ikenoue Student Dormitory: https://www.hiroshima-u.ac.jp/en/nyugaku/shien/jyuukyo/gakuseisyukusya
There are also university-designated dormitories. (Higashi-Hiroshima Campus only)
- Dormitory: https://www.hiroshima-u.ac.jp/en/explore_hu/life/residence

(4) The Genome Editing Program will provide financial support for travel expenses (such as transportation, daily allowances, accommodation fees, etc.) required for students' research activities abroad. Support will be provided within the scope approved by the program. *see Note 2

*Note 1: Financial support is as of May 1, 2025 and is subject to change.

*Note 2: Financial support for (1), (2) and (4) will end on March 31, 2028. Financial support after April 1, 2028 is not yet confirmed.

In addition to the support mentioned above, Hiroshima University also provides the following support for graduate students.

- Program for Developing and Supporting the Next-Generation of Innovative Researchers at Hiroshima University (SPRING):
https://www.hiroshima-u.ac.jp/en/fellowship/nextgeneration

-Project for Developing and Supporting the Next-Generation AI Researchers at Hiroshima University:
https://www.hiroshima-u.ac.jp/en/fellowship/nextgeneration-ai_

- Hiroshima University Fellowship for Female Graduate Students in Science and Technology:
https://www.hiroshima-u.ac.jp/en/fellowship/diversity_stem

- Support Project for Graduate Students Presenting at International Conferences (Please refer to the Graduate School website for details.)

*Please check the latest information at each website.

6. Inquiries and Submission

Collaboration Office, Education Office, Hiroshima University

3F Student Plaza, 1-7-1 Kagamiyama, Higashi-Hiroshima City, Hiroshima, 739-8514, Japan
Tel: 082-424-6819 E-mail: leading-program@office.hiroshima-u.ac.jp
* When sending an inquiry email, please include "[Name] About Application" in the subject line.

7. List of Program Members

All applicants must consult with their prospective primary advisor who must be a program member, about the suitability of their proposed research activities for the program and must have their approval before applying to a program.

(1) The following list is effective as of May 1, 2025 and is subject to change.

(2) A student in the program is required to fulfill the requirements for both his/her major in the Graduate School and this program simultaneously.

(3) An applicant who wishes to work with a program member with an "*" mark in the list as an academic advisor must contact the Collaboration Office "6. Inquiries and Submission" prior to applying to a program.

【Life Science Course】

Name	title	Specialty	Graduate school program to be completed
YAMAMOTO Takashi	Professor	Genome biology	Program of Mathematical and Life Sciences/ Program of Biomedical Science
BONO Hidemasa	Professor	Bioinformatics	Program of Mathematical and Life Sciences/ Program of Biomedical Science
SAKAMOTO Naoaki	Associate Professor	Molecular biology	Program of Mathematical and Life Sciences/ Program of Biomedical Science
SUGI Takuma	Associate Professor	Behavioral Systems Biology	Program of Mathematical and Life Sciences/ Program of Biomedical Science
SAKAMOTO Atsushi	Professor	Plant molecular biology, Plant physiology	Program of Mathematical and Life Sciences
SHIMADA Hiroshi	Associate Professor	Plant molecular cell biology	Program of Mathematical and Life Sciences
UENO Masaru	Associate Professor	Molecular cell biology	Program of Biotechnology/ Program of Biomedical Science
FUJIE Makoto	Associate Professor	Plant cell biology	Program of Biotechnology
SHIMADA Masayuki	Professor	Reproductive biology	Program of Food and AgriLife Science/ Program of Bioresource Science
HORIUCHI Hiroyuki	Professor	Animal cell technology, Immunobiology	Program of Food and AgriLife Science
YANAKA Noriyuki	Professor	Molecular nutritional science	Program of Food and AgriLife Science
NAKAE Susumu	Professor	Immunology	Program of Food and AgriLife Science
TANAKA Wakana	Associate Professor	Plant Developmental Genetics	Program of Food and AgriLife Science
MATSUZAKI Mei (*)	Assistant Professor	Animal production science	Program of Food and AgriLife Science
IKUTANI Masashi	Assistant Professor	Immunology	Program of Food and AgriLife Science
SATOH Akiko	Professor	Cell biology	Program of Life and Environmental Sciences
UKENA Kazuyoshi	Professor	Neuroendocrinology	Program of Life and Environmental Sciences/ Program of Biomedical Science
WASAKI Jun	Professor	Plant nutrition	Program of Life and Environmental Sciences/ Program of Bioresource Science
IMAMURA Takuya	Professor	RNA biology, Epigenetics	Program of Basic Biology/ Program of Biomedical Science
CHIHARA Takahiro	Professor	Neurogenetics	Program of Basic Biology/ Program of Biomedical Science

OGINO Hajime	Professor	Developmental biology, Evolutionary biology	Program of Basic Biology/ Program of Biomedical Science
HAYASHI Toshinori	Professor	Regeneration biology, Developmental biology	Program of Basic Biology/ Program of Biomedical Science
HAMAO Kozue	Associate Professor	Cell biology	Program of Basic Biology/ Program of Biomedical Science
OKUMURA Misako	Associate Professor	Neuroscience	Program of Basic Biology/ Program of Biomedical Science
TAGAWA Kunifumi	Associate Professor	Evolutionary developmental biology	Program of Basic Biology

【Medical Course】

Name	title	Specialty	Graduate school program to be completed
ADACHI Nobuo (Retirement: end of March 2028)	Professor	Knee joint surgery	Program of Medicine
OHDAN Hideki (Retirement: end of March 2028)	Professor	Surgery, Gastrointestinal surgery, Transplantation, Immunology	Program of Medicine
OKADA Satoshi	Professor	Immunology	Program of Medicine
SAKAGUCHI Takemasa (Retirement: end of March 2026)	Professor	Virology	Program of Medicine
SOTOMARU Yusuke	Professor	Reproductive and developmental engineering	Program of Medicine
MARUYAMA Hirofumi	Professor	Clinical neuroscience and therapeutics	Program of Medicine
YASUDA Tomoharu	Professor	Immunology	Program of Medicine
SHUKUNAMI Chisa	Professor	Molecular biology	Program of Dental Sciences
TANIMOTO Kotaro	Professor	Orthodontics	Program of Dental Sciences
KAMIYA Hiroyuki	Professor	Pharmacy, Biological pharmacy	Program of Pharmaceutical Sciences
NOMURA Wataru	Professor	Chemical pharmacy, Bio-related chemistry	Program of Pharmaceutical Sciences
ICHINOHE Tatsuo	Professor	Hematological malignancies, Cell transplant science	Program of Radiation Biology and Medicine
KAMINUMA Osamu	Professor	Laboratory Animal Science, Immunology	Program of Radiation Biology and Medicine

8. Total ban on smoking in Campus

Smoking has been prohibited entirely in all Hiroshima University campuses.

* This guide is made in Japanese and translated into English. The Japanese text is the original and the English text is for reference purposes. If there is any conflict or inconsistency between these two texts, the Japanese text shall prevail.