Student handbook

2026

Division of Advanced Science and Engineering

Graduate School of Advanced Science and Engineering

Hiroshima University

University Policy

1 Founding Principle

A Single Unified University, Free and Pursuing Peace

2 The Five Guiding Principles

- Pursuit of Peace
- Creation of New Forms of Knowledge
- Nurturing of Well-Rounded Human Beings
- Collaboration with the Local, Regional, and International Community
- Continuous Self-Development

Graduate School of Advanced Science and Engineering
Goals and Objectives

The Graduate School aims not only to provide and cultivate knowledge and skills in students' specialized fields but also to develop capabilities for integrated understanding of other fields of science and engineering and for contribution to local and international societies. Specifically, the Graduate School educates students to obtain the following capabilities:

(1) Advanced and high-level knowledge and specialized skills in the areas of science, engineering, and information science (expertise);
(2) The ability to understand other areas and application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas (cross-disciplinary ability);
(3) The ability to contribute to realizing a sustainable international society in which various cultures and religions are equally respected and coexist peacefully against the background of globalization (internationalism); and
(4) The ability to organize a team of specialists of various academic areas as required and take an action for solving a social problem as a member or the leader of the team while considering the relationship between the academic field and actual society (practical skills for social implementation).

To achieve the aim, the Graduate School provides education and research activities through an advanced method in which social needs are taken into consideration from cross-disciplinary points of view that is established beyond the borders of the graduate schools and major courses as well as conventional education for improving capabilities in each specialized area to contribute to solve social problems.

Hiroshima University Charter

Hiroshima University is a national research university established in 1949 in Hiroshima, which is the first atomic-bomb stricken city in the history of humankind.

Hiroshima University's mission is to contribute to the well-being of humankind by realizing a free and peaceful society based on the following five guiding principles: The Pursuit of Peace; The Creation of New Forms of Knowledge; The Nurturing of Well-Rounded Human Beings; Collaboration with the Local, Regional and International Community; and Continuous Self-Development.

1. Respect for human rights

In all its activities, Hiroshima University will not tolerate discrimination or harassment of any kind in relation to ethnicity, nationality, religion, belief, gender, economic or social status, or disability, and will respect and protect the human rights and individuality of each person.

2. Education

Hiroshima University will create an environment in which each student can learn independently and flexibly, while nurturing individuals with a rich sense of humanity, broad education, excellent specialized knowledge, and the ability to discover and solve problems on their own, who will contribute to the realization of a society that enables free and peaceful sustainable development.

3. Research

Hiroshima University will strive for an in-depth search for the truth and the creation of new knowledge through advanced and innovative research based on the free thinking of its researchers, and will share the fruits of such endeavors with the wider community, in order to continuously create innovations to solve the problems faced by the local, national and international communities.

4. Social Contributions

As a university aspiring to be open to and trusted by society, Hiroshima University is determined to contribute to local and international society by actively publicizing its activities, securing cooperation and collaboration with local communities, industry and other organizations concerned, and engaging itself in all activities including education, research, and medical care.

5. Realization of a sustainable society

Hiroshima University, as a university engaged in world-class activities for the realization of a sustainable society, will strive to lead the world in providing cutting-edge solutions to global issues such as poverty, conflict, the suppression of human rights, infectious diseases, and environmental, resource and energy problems.

The members of Hiroshima University will take pride in their work, reflect tirelessly on the role expected of them by the nation and the world, and continue to fulfill each member's mission by fully demonstrating his/her individuality and abilities, while ensuring full compliance and showing mutual trust and respect.

(Enacted on December 27, 2021)

Hiroshima University Code of Conduct

As a national research university established in Hiroshima, Hiroshima University is committed to fulfilling its mission of contributing to the well-being of humankind by realizing a free and peaceful society, and at the same time, it is required to be highly ethical, transparent and fully accountable for its activities. In order to live up to this responsibility, the University has established the “Hiroshima University Code of Conduct” as a guideline that all members should always be aware of and follow.

1. Respect for human rights and diversity

We will respect the human rights and personality of each individual, will not tolerate discrimination or harassment of any kind, and will realize a campus where all members can fully demonstrate their individuality and abilities.

2. Upholding independence and autonomy

While giving due consideration to social norms, ethics, and the integrity of our individual activities, we will uphold academic freedom and the autonomy and independence of education and research. We will aspire to conduct and develop research and education that are of the highest international standard, and return the fruits of such research and education to society.

3. Compliance with laws and regulations

In our activities as members of Hiroshima University, we will comply with social norms and rules, relevant laws and regulations, and university regulations.

4. Disclosure/Protection of Information

In order to fulfill our accountability to society in a transparent and fair manner, we will disclose to society the content and results of our activities and other information held by the University in a timely and appropriate manner, and will hold ourselves to high ethical standards in the use of that information, as well as in the protection of personal information.

5. Information Management

In order to ascertain the value of Hiroshima University's information assets and to ensure their safety and reliability, we shall fully recognize the threats to information security, and shall manage and operate information appropriately in accordance with our respective duties.

6. Appropriate management of expenses and assets

We will manage and use the university’s expenses and assets in an appropriate and efficient manner, always being aware that most of the expenses and assets for our activities come from taxes and other forms of social support.

7. Maintenance of a safe and secure environment

We will raise awareness of safety in the conduct of our operation and provide a safe, secure and comfortable environment for education, study, research and work.

8. Addressing environmental issues

We will take the initiative in addressing global environmental issues such as climate change, large-scale disasters, environmental pollution, and resource and energy problems, to hand over a stable environment to future generations.

(Enacted on December 27, 2021)

Academic Calendar and School Hours

1 Academic Calendar

First Semester	Spring Holiday	April 1 to April 7
	Classes	April 8 to August 10
	Summer Holiday	August 11 to September 30
Second Semester	Classes	October 1 to December 25
	University Foundation Day	November 5 (has classes)
	Winter Holiday	December 26 to January 5
	Classes	January 6 to February 15
	End-of-Academic-Year Holiday	February 16 to March 31

(Note)

At Hiroshima University, we employ a quarter system, under which an academic year consists of a first term (the first half of the first semester), a second term (the second half of the first semester), a third term (the first half of the second semester), and a fourth term (the second half of the second semester).

The periods described above are based on Hiroshima University's general regulations, and there are cases where class schedules are not in line with the periods. For your class schedules, please check each year's academic calendar released on Student Information Momiji.

2 Periods of Class Time in the Daytime

Period	1	2	3	4	5	6	7	8	9	10
Time	8:45 ▽ 9:30	9:30 ▽ 10:15	10:30 ▽ 11:15	11:15 ▽ 12:00	12:50 ▽ 13:35	13:35 ▽ 14:20	14:35 ▽ 14:20	15:20 ▽ 16:05	16:20 ▽ 17:05	17:05 ▽ 17:50

Period	11	12	13	14
Time	18:00 ▽ 18:45	18:45 ▽ 19:30	19:40 ▽ 20:25	20:25 ▽ 21:10

Contents

University Policy
Graduate School of Advanced Science and Engineering Goals and Objectives
Hiroshima University Charter
Hiroshima University Code of Conduct
Academic Calendar and School Hours
Diploma Policy
Curriculum Policy

◆Common Matters　Master's Courses／Doctoral Courses
1. By-laws of the Graduate School of Advanced Science and Engineering, Hiroshima University ····· 1
2. Class Registration Procedure ····· 11
3. Research Ethics Education ····· 12
4. Graduate Skill Up Subjects ····· 14
5. The HIRAKU Practical Training Program ····· 15

◆Master's Course
6. Class Subjects and Registration (Master's Courses) ····· 19
7. Common Graduate Courses (Master's Courses) ····· 51
8. Common Subjects for the Graduate School (Master's Courses) ····· 52
9. Joint Seminars (Joint Exercises in Advanced Science and Engineering Transdisciplinary Science and Engineering) (Master's Courses) ····· 62
10. 中四国 VISTA(Value-Integrated Semiconductor Talent Acceleration) ····· 62
11. Completion Schedule (Master's Courses) ····· 63
12. Master's Thesis Screening and Final Examination ····· 65
13. Decision Criteria for Awarding Degrees and Evaluation Standards for Degree Theses (Master's Courses) ····· 67
Specified Forms for Master's Course

◆Doctoral Course
14. Class Subjects and Registration (Doctoral Courses) ····· 81
15. Common Graduate Courses (Doctoral Course) ····· 96
16. Common Subjects for the Graduate School (Doctoral Courses) ····· 97
17. Completion Schedule (Doctoral Courses) ····· 104
18. Internal Regulations of the Graduate School of Advanced Science and Engineering Based on the Hiroshima University Degree Regulations ····· 105
19. Decision Criteria for Awarding Degrees and Evaluation Standards for Dissertation (Doctoral Courses) ····· 119
20. Requirements for Awarding Degrees and Criteria for Applying for Degrees (Doctoral Courses) ····· 120
21. Overview of the Screening Procedure for Doctoral Degrees Earned by Completing Courses ····· 122
22. Application Procedure for Doctoral Degrees Earned by Completing Courses ····· 125
Specified Forms for Doctoral Course

◆Contact Information ····· 143

Diploma Policy

【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 will award either of the following degrees to students who have acquired the capabilities described below, earned the required credits, conducted research activities under the research guidance, and passed the master's thesis examination and the final examination or the qualifying examination for research in the doctoral course according to the research theme and the specialized area: Master of Science, Master of Engineering, Master of Informatics and Data Science, Master of International Cooperation Studies), and Master of Philosophy.

1. Advanced and high-level knowledge and specialized skills in areas of science, engineering, informatics and data science or their related/combined area.
2. The ability to understand other areas in addition to profound expertise in any of the above-mentioned areas and application capabilities, practical skills, and the capability to identify problems in integrating and coordinating knowledge and skills in different areas.
3. The ability to solve social problems through creation of "science for sustainable development" and social implementation of technology while cooperating with specialists of various areas.
4. The ability to understand scientific logic and research ethics, the ability to dispatch information towards other academic areas, and the capability for international and cross-disciplinary communication.

【Graduate School of Advanced Science and Engineering (Doctoral Course) 】

The Division of Advanced Science and Engineering of the Graduate School of Advanced Science and Engineering will award either of the following degrees to students who have acquired the capabilities described below, earned the required credits, conducted research activities under the research guidance, and passed the doctor's thesis examination and the final examination according to the research theme and the specialized area: Doctor of Philosophy in Science, Doctor of Philosophy in Engineering, Doctor of Philosophy in Informatics and Data Science, Doctor of Philosophy in International Cooperation Studies, and Doctor of Philosophy.

1. Advanced and prominent research capabilities and specialized skills in areas of science, engineering, informatics and data science or their related/combined area and ability to distribute results of academic activities both at home and abroad.
2. Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in any of the above-mentioned areas and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas.
3. The ability to take a leading role in the activity for solving social problems through creation of "science for sustainable development) and social implementation of technology while cooperating with specialists of various areas.
4. The ability to understand scientific logic and noble research ethics, ability to dispatch information towards other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Mathematics Program (Master's Course) 】

In the Mathematics Program, we will award a master's degree (science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① Extensive learning in mathematics, high-level study skills, and specialized capabilities;
② Profound mathematics expertise and the ability to understand other areas, as well as application capabilities, practical skills, and the ability to identify problems in integrating and coordinating them;
③ Ability to mathematically regard and analyze problems occurring in the fields of sciences, including international/regional communities and industrial society, and to solve social problems through creation of "science for sustainable development" while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Mathematics Program (Doctoral Course) 】

In the Mathematics Program, we will award a doctoral degree (science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Capabilities to apply, analyze and evaluate specialized knowledge of mathematics, capabilities to integrate them and create new things, and ability to distribute results of academic activities both at home and abroad;
② Profound mathematics expertise and learning based on international and cross-disciplinary perspectives, and capability to identify and solve problems in integrating and coordinating them;
③ Capabilities to mathematically regard and analyze problems occurring in the fields of sciences, including industrial society, and to take a leading role in activities for solving social problems through creation of "science for sustainable development" while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Physics Program (Master's Course) 】

In the Physics Program, we will award a master's degree (science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① Cutting-edge specialized knowledge of physics as the cornerstone of science;
② Profound physics expertise and capabilities to understand different related fields, and also capabilities to detect problems by integrating them;
③ Ability to solve social problems through creation of "science for sustainable development" while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Physics Program (Doctoral Course) 】

In the Physics Program, we will award a doctoral degree (science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills of physics as the cornerstone of science, and ability to distribute results of academic activities both at home and abroad;
② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in physics and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas;
③ Ability to take a leading role in activities for solving social problems through creation of "science for sustainable development" while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Earth and Planetary Systems Science Program (Master's Course) 】

In the Earth and Planetary Systems Science Program, we will award a master's degree (science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of earth and planetary science, and capabilities to regard the earth and planets as systems related to different fields;

② Profound expertise of earth and planetary science and capabilities to understand different related fields, and also capabilities to detect problems by integrating them;

③ Ability to solve social problems through creation of "science for sustainable development" from the perspective of earth and planetary systems science while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Earth and Planetary Systems Science Program (Doctoral Course) 】

In the Earth and Planetary Systems Science Program, we will award a doctoral degree (science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of earth and planetary science, and capabilities to regard the earth and planets as systems related to different fields;

② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in earth and planetary science and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas;

③ Ability to take a leading role in activities for solving social problems through creation of "science for sustainable development" from the perspective of earth and planetary systems science while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Chemistry Program (Master's Course) 】

In the Chemistry Program, we will award a master's degree (science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of chemistry;

② Profound expertise of chemistry and the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;

③Ability to solve social problems through creation of "science for sustainable development" while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Chemistry Program (Doctoral Course) 】

In the Chemistry Program, we will award a doctoral degree(science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of chemistry, and ability to distribute results of academic activities both at home and abroad;

② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in chemistry program and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas;
③ Ability to take a leading role in the activities for solving social problems through creation of "science for sustainable development" while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Applied Chemistry Program (Master's Course) 】

In the Applied Chemistry Program, we will award a master's degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of applied chemistry;
② Profound expertise of applied chemistry and the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;
③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Applied Chemistry Program (Doctoral Course) 】

In the Applied Chemistry Program, we will award a doctoral degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of applied chemistry, and ability to distribute results of academic activities both at home and abroad;
② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in applied chemistry program and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas;
③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Chemical Engineering Program (Master's Course) 】

In the Chemical Engineering Program, we will award a master's degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of chemical engineering;
② Profound expertise of chemical engineering and the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;
③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Chemical Engineering Program (Doctoral Course) 】

In the Chemical Engineering Program, we will award a doctoral degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted

research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of chemical engineering, and ability to distribute results of academic activities both at home and abroad;

② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in chemical engineering program and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas;

③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Electrical, Systems, and Control Engineering Program (Master's Course) 】

In the Electrical, Systems, and Control Engineering Program, we will award a master's degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of electrical engineering and system engineering as the cornerstone of electrical, systems and control engineering;

② Profound expertise in the field of electrical engineering and system engineering as the cornerstone of electrical, systems and control engineering, the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;

③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Electrical, Systems, and Control Engineering Program (Doctoral Course) 】

In the Electrical, Systems, and Control Engineering Program, we will award a doctoral degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of electrical engineering and system engineering as the cornerstone of electrical, systems and control engineering, and ability to distribute results of academic activities both at home and abroad;

② Cross-disciplinary point of view and ability for social implementation, profound expertise in electrical engineering and system engineering as the cornerstone of electrical, systems and control engineering, and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas

③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Mechanical Engineering Program (Master's Course) 】

In the Mechanical Engineering Program, we will award a master's degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of mechanical engineering;

② Profound expertise of mechanical engineering, the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;

③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Mechanical Engineering Program (Doctoral Course) 】

In the Mechanical Engineering Program, we will award a doctoral degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of mechanical engineering, and ability to distribute results of academic activities both at home and abroad;
② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in mechanical engineering and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas
③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Transportation and Environmental Systems Program (Master's Course) 】

In the Transportation and Environmental Systems Program, we will award a master's degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of transportation system engineering and environmental system engineering;
②Profound expertise of transportation system engineering and environmental system engineering, the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;
③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Transportation and Environmental Systems Program (Doctoral Course) 】

In the Transportation and Environmental Systems Program, we will award a doctoral degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of transportation system engineering and environmental system engineering, and ability to distribute results of academic activities both at home and abroad;
② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in transportation system engineering and environmental system engineering and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas
③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Architecture Program (Master's Course) 】

In the Architecture Program, we will award a master's degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research

activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of architecture;

② Profound architecture expertise, the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas; and

③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Architecture Program (Doctoral Course) 】

In the Architecture Program, we will award a doctoral degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of architecture, and ability to distribute results of academic activities both at home and abroad;

② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in architecture and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas

③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Civil and Environmental Engineering Program (Master's Course) 】

In the Civil and Environmental Engineering Program, we will award a master's degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the fields of structure of engineering, civil environmental engineering and disaster prevention engineering as the cornerstone of civil and environmental engineering;

② Profound expertise of structure of engineering, civil environmental engineering and disaster prevention engineering as the cornerstone of civil and environmental engineering, the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;

③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Civil and Environmental Engineering Program (Doctoral Course) 】

In the Civil and Environmental Engineering Program, we will award a doctoral degree (engineering) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the fields of structure of engineering, civil environmental engineering and disaster prevention engineering as the cornerstone of civil and environmental engineering, and ability to distribute results of academic activities both at home and abroad;

② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in structure of engineering, civil environmental engineering and disaster prevention engineering as the cornerstone of civil and environmental engineering and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas;

③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic, noble engineering ethics, and respect for diversity, and high-level communication skills and other practical skills necessary to demonstrate their capabilities as leading, high-level professionals or researchers both at home and abroad.

【Informatics and Data Science Program (Master's Course) 】

In the Informatics and Data Science Program, we will award a master's degree (informatics and data science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the field of informatics and data science;
② Profound expertise of informatics and data science, capabilities to understand different cultures, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas;
③ Ability to solve social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Informatics and Data Science Program (Doctoral Course) 】

In the Informatics and Data Science Program, we will award a doctoral degree (informatics and data science) to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the field of informatics and data science, and ability to distribute results of academic activities both at home and abroad;
② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in informatics and data science and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas
③ Ability to take a leading role in activities for solving social problems through social implementation of technology while cooperating with specialists of various areas; and
④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Smart Innovation Program (Master's Course) 】

The Smart Innovation Program will award the degree "Master of Engineering" to the student who have acquired the following abilities, earned the required credits defined for the education course, conducted research activities under the research guidance, and passed the master's thesis examination and the final examination or the qualifying examination for research in the doctoral course:

① Advanced research capabilities and professional skills in the field related to the smart material development, the smart measurement and control, or their fusion area;
② Ability to understand other areas in addition to profound expertise in areas related to the smart material development, the smart measurement and control, or their fusion area. In addition, capability of application, practical skills, and capability for identifying problems for integrating and coordinating knowledge and skills in different areas.
③ Ability to solve social issues through social implementation of technology in collaboration with specialists in various fields; and
④ Ability to understand scientific logic and research ethics; ability to offer information to the other academic area; and skills for international and interdisciplinary communication.

【Smart Innovation Program (Doctoral Course) 】

The Smart Innovation Program will award the degree "Doctor of Philosophy in Engineering" to the student who have acquired following abilities, earned the required credits defined for the education course, conducted

research activities under the research guidance, and passed the doctor's thesis examination and the final examination:

① Prominent research capabilities and professional skills in areas related to the smart material development, the smart measurement and control, and a their fusion area as well as the ability to distribute results of the academic activities both to Japan and overseas.;

② Interdisciplinary point of view and ability for social implementation in addition to profound expertise in areas related to the smart material development, the smart measurement and control, and a their fusion area and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different fields;

③ Ability to take a leading role in solving social issues through implementation of technologies while cooperating with specialists of various fields; and

④ Ability to understand scientific logics and noble research ethics, ability to offer information towards the other academic area, and advanced skills for international and interdisciplinary communication.

【Quantum Matter Program (Master's Course) 】

In the Quantum Matter Program, we will award a master's degree (engineering), a master's degree (science) or a master's degree (philosophy), depending on the major research theme and specialized area, to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills based on materials science, condensed material physics, material science and engineering, and electronic engineering;

② Profound expertise, the ability to understand other areas, application capabilities, practical skills, and the ability to identify problems in integrating and coordinating different areas; and

③ Ability to solve social problems through creation of "science for sustainable development" and social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Quantum Matter Program (Doctoral Course) 】

In the Quantum Matter Program, we will award a doctoral degree (engineering) a doctoral degree (science) or a doctoral degree (philosophy), depending on the major research theme and specialized area, to students who have acquired the capabilities described below, have earned the required number of credits, have conducted research activities under the research guidance, and have passed the doctor's thesis screening and the final examination:

① Prominent research skills and specialized skills in the fields of materials science, condensed material physics, material science and engineering, and electronic engineering, and ability to distribute results of academic activities both at home and abroad;

② Cross-disciplinary point of view and ability for social implementation in addition to profound expertise in materials science, condensed material physics, material science and engineering, and electronic engineering and capability of identifying and solving problems while integrating and coordinating knowledge and skills in different areas

③ Ability to take a leading role in activities for solving social problems through creation of "science for sustainable development" and social implementation of technology while cooperating with specialists of various areas; and

④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Transdisciplinary Science and Engineering Program (Master's Course) 】

In the Transdisciplinary Science and Engineering Program, we will award a master's degree (science), a master's degree (engineering), a master's degree (international cooperation studies) or a master's degree (philosophy), depending on the relevant research theme and specialized area, to students who have acquired the capabilities described below, have earned the required number of credits, and have passed the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course:

① High-level research skills and specialized skills in the fundamental fields of natural environment/natural disasters, integrated physics , information system environment and technology development, as well as in integrated fields;
② Ability to understand integrated fields based on profound expertise in the fundamental fields of natural environment, natural disasters, integrated physics, information system, media, and development technology through both a nature-oriented point of view and a human-oriented point of view, as well as application capabilities, practical skills, and the capability to identify problems in ensuring harmonious coexistence between nature and humans;
③ Ability to solve social problems through creation of “science for sustainable development” and social implementation of technology while cooperating with high-level professionals of various areas; and
④ Ability to understand scientific logic and research ethics, the ability to dispatch information to other academic areas, and the capability for international and cross-disciplinary communication.

【Transdisciplinary Science and Engineering Program (Doctoral Course) 】

In the Transdisciplinary Science and Engineering Program, we will award a doctoral degree (science), a doctoral degree (engineering), a doctoral degree (international cooperation studies) or a doctoral degree (philosophy), depending on the relevant research theme and specialized area, to students who have acquired the capabilities described below, have earned the required credits, have conducted research activities under the research guidance, and have passed the doctor’s thesis screening and the final examination:

① Prominent research skills and specialized skills in the fundamental fields of natural environment/natural disasters, general physics, information system environment and technology development, as well as in integrated fields, and also ability to distribute results of academic activities both at home and abroad;
② Ability to identify and solve problems and practical skills for social implementation to ensure harmonious coexistence between nature and humans while integrating and coordinating different areas based on profound expertise in the fundamental fields of natural environment, natural disasters, integrated physics, information system, media, and development technology through both a nature-oriented point of view and a human-oriented point of view;
③ Ability to take a leading role in activities for solving social problems through creation of "science for sustainable development” and social implementation of technology while cooperating with high level professionals of various areas; and
④ Ability to understand scientific logic and noble research ethics, ability to dispatch information to other academic areas, and an advanced capability for international and cross-disciplinary communication.

【Joint International Master's Programme in Sustainable Development (Hiroshima University and Leipzig University), Graduate School of Advanced Science and Engineering (Master’s Course) 】

This program will award the degree Master of Science to the student who has acquired the capabilities described below, has earned the required credits defined for the education course, and has passed the master's thesis examination and the final examination:

① The ability to understand scientific way of thinking and methods required for the autonomous conduct of research activities and the capacity for decision making based on various types of evidence;
② Skills required for active work in society, such as writing, discussion, conflict intervention, cooperation, planning, and management;
③ Communication skills required for cooperating with people of different backgrounds, with the aim of developing intercultural competency while fostering the understanding of differences in viewpoints between Europe and Asia;
④ The ability to select and use both appropriate knowledge and scientific approaches, as well as interdisciplinary research methods, to address complex issues;
⑤ The ability to understand the natural, social, and economic aspects of the concept of sustainable development and their complex interrelations;
⑥ Research and practical skills required for contributing to solving global problems and achieving SDGs, based on the fundamental principles of sustainable development in environmental studies.

Curriculum Policy

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

To enable students to achieve the targets that are defined in the diploma policy, the Graduate School of Advanced Science and Engineering organizes and executes the education courses according to the following policies:

1. Subjects specialized for the program are provided to develop the specialized knowledge and skills required for each diploma program.
2. Common subjects for the Graduate School are provided to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a point of view that encompasses areas of the other graduate schools and specialty, interest in society, and an awareness of problems.
3. Students are required to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability.
4. To develop human resources who are superior in practical skills, special exercise subjects are provided.
5. To develop a capability to identify and solve problems from a broad point of view, students are engaged in a special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor.
6. To develop the fundamental capabilities required for international research activities, common subjects for the Graduate School (internationalism) are provided.
7. To develop the practical skills for social implementation, common subjects for the Graduate School (sociality) are provided.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Graduate School of Advanced Science and Engineering (Doctoral Course) 】

To enable students to achieve the targets that are defined in the diploma policy, the Division of Advanced Science and Engineering of the Graduate School of Advanced Science and Engineering organizes and executes the education courses according to the following policies:

1. Subjects specialized for the program are provided to develop the specialized knowledge and skills required for each diploma program.
2. Common subjects for the Graduate School are provided to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a cross-disciplinary and international point of view, and interest and awareness for society and its problems.
3. To develop a capability to identify and solve problems from a broad point of view, students are engaged in a special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor.
4. To develop the practical capabilities required for international research activities, common subjects for the Graduate School (internationalism) are provided.
5. To develop an ability to solve social problems, common subjects for the Graduate School (sociality) are provided.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Mathematics Program (Master's Course) 】

In the Mathematics Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for mathematics and its related areas;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;

③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;

④ To provide special exercise subjects to develop human resources who are superior in practical skills;

⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;

⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and

⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Mathematics Program (Doctoral Course) 】

In the Mathematics Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for mathematics and its related areas;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;

③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;

④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and

⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Physics Program (Master's Course) 】

In the Physics Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for physics and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence and foster ambition to create “science for sustainable development;”
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master’s Course).

【Physics Program (Doctoral Course) 】

In the Physics Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for physics and its related areas
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Earth and Planetary Systems Science Program (Master's Course) 】

In the Earth and Planetary Systems Science Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for earth and planetary systems science and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;

③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, experiments and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Earth and Planetary Systems Science Program (Doctoral Course) 】

In the Earth and Planetary Systems Science Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for earth and planetary systems science and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, experiments and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Chemistry Program (Master's Course) 】

In the Chemistry Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for chemistry and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;

⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Chemistry Program (Doctoral Course) 】

In the Chemistry Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for chemistry and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Applied Chemistry Program (Master's Course) 】

In the Applied Chemistry Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for applied chemistry and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and

⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Applied Chemistry Program (Doctoral Course) 】

In the Applied Chemistry Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for applied chemistry and its related areas;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;

③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;

④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and

⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Chemical Engineering Program (Master's Course) 】

In the Chemical Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for chemical engineering and its related areas;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;

③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;

④ To provide special exercise subjects to develop human resources who are superior in practical skills;

⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;

⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and

⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Chemical Engineering Program (Doctoral Course) 】

In the Chemical Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for chemical engineering and its related areas;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;

③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;

④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and

⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Electrical, Systems, and Control Engineering Program (Master's Course) 】

In the Electrical, Systems, and Control Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for electrical engineering, system engineering and their related areas as the cornerstone of electrical, systems, and control engineering;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;

③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;

④ To provide special exercise subjects to develop human resources who are superior in practical skills;

⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;

⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and

⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Electrical, Systems, and Control Engineering Program (Doctoral Course) 】

In the Electrical, Systems, and Control Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for electrical engineering, system engineering and their related areas as the cornerstone of electrical, systems, and control engineering;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;

③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;

④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and

⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Mechanical Engineering Program (Master's Course) 】

In the Mechanical Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for mechanical engineering and its related areas;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create "science for sustainable development," cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;

③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;

④ To provide special exercise subjects to develop human resources who are superior in practical skills;

⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;

⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and

⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Mechanical Engineering Program (Doctoral Course) 】

In the Mechanical Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for mechanical engineering and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Transportation and Environmental Systems Program (Master's Course) 】

In the Transportation and Environmental Systems Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for transportation system engineering, environmental system engineering and their related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master’s Course).

【Transportation and Environmental Systems Program (Doctoral Course) 】

In the Transportation and Environmental Systems Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for transportation system engineering, environmental system engineering and their related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Architecture Program (Master's Course) 】

In the Architecture Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

①To provide subjects specialized for the program to develop the specialized knowledge and skills required for architecture and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, drawing and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master’s Course).

【Architecture Program (Doctoral Course) 】

In the Architecture Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for architecture and its related areas;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, drawing and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Civil and Environmental Engineering Program (Master's Course) 】

In the Civil and Environmental Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for structure of engineering, civil environmental engineering, disaster prevention engineering and their related areas as the cornerstone of civil and environmental engineering;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master’s Course).

【Civil and Environmental Engineering Program (Doctoral Course) 】

In the Civil and Environmental Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for structure of engineering, civil environmental engineering, disaster prevention engineering and their related areas as the cornerstone of civil and environmental engineering;

② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Informatics and Data Science Program (Master's Course) 】

In the Informatics and Data Science Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for informatics and data science and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master’s Course).

【Informatics and Data Science Program (Doctoral Course) 】

In the Informatics and Data Science Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for informatics and data science and its related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;

③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and
⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Smart Innovation Program (Master's Course) 】

In the Smart Innovation Program, the curriculum is organized and implemented according to the following policies so that students can achieve the goals shown in the Diploma Policy.

① Specialized subjects for the program are provided to develop specialized knowledge and abilities in the fields related to smart material development, smart measurement and control, or their fusion fields;
② Common subjects for the Graduate School are provided to develop wide and deep intelligence, to foster willingness to create "science for sustainable development," and to cultivate a broad perspective that goes beyond graduate schools and specialized fields, as well as interest in society and awareness of problems.
③ Students are required to take a lecture of the other diploma program to improve understanding of the other area and interdisciplinary ability.
④Special seminars are provided to train human resources with excellent practical skills,
⑤ To develop a capability of identifying problems from a wide point of view, a special study will be provided in a multi-instruction system with the main supervisor and two or more sub-supervisors, whose main subject are different from the main supervisor.
⑥ To develop the fundamental capabilities required for international research activities, common subjects for the Graduate School (internationalism) are provided.
⑦ To develop the practical skills for social implementation, common subjects for the Graduate School (sociality) are provided.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master's Course).

【Smart Innovation Program (Doctoral Course) 】

In the Smart Innovation Program, the curriculum is organized and implemented according to the following policies so that students can achieve the goals shown in the Diploma Policy.

① Common subjects for the Graduate School are provided to develop specialized knowledge and abilities in the fields related to smart material development, smart measurement and control, or their fusion fields, student are engaged in a special research;
② To develop wide and deep intelligence, and to foster ambition to create "science for sustainable development," cultivate an interdisciplinary and international perspectives, and to cultivate interest in society and awareness of problems, common subjects for the Graduate School are provided;
③ To develop a capability of identifying and solving problems and from a wide point of view, a special study will be provided in a multi-instruction system with the main supervisor and two or more sub-supervisors, whose main subject are different from the main supervisor.;

④ To develop the practical capabilities required for international research activities, common subjects for the Graduate School (internationalism) are provided; and
⑤ To develop an ability of social practical skills., common subjects for the Graduate School (sociality) are provided.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Quantum Matter Program (Master's Course) 】

In the Quantum Matter Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program to develop the specialized knowledge and skills required for materials science, condensed material physics, material science and engineering, electronic engineering, and their related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;
③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;
④ To provide special exercise subjects to develop human resources who are superior in practical skills;
⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;
⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and
⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master’s Course).

【Quantum Matter Program (Doctoral Course) 】

In the Quantum Matter Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research to develop the specialized knowledge and skills required for materials science, condensed material physics, material science and engineering, electronic engineering, and their related areas;
② To provide Common Subjects for the HU Graduate Schools to develop wide and deep intelligence, foster ambition to create “science for sustainable development,” cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;
③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;
④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and

⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Transdisciplinary Science and Engineering Program (Master's Course) 】

In the Transdisciplinary Science and Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To provide subjects specialized for the program organized from a nature-oriented point of view and a human-oriented point of view in order to develop the specialized knowledge and skills required for the fundamental fields of natural environment, natural disasters, information systems, media, and development technology;

② To provide Common Subjects for the HU Graduate Schools to foster ambition to create “science for sustainable development” from a global point of view, cultivate a point of view that encompasses areas of the other graduate schools and specialty, and encourage interest in society and awareness of problems;

③ To require students to take a class subject of another diploma program to improve their understanding of the other area and cross-disciplinary ability;

④ To provide special exercise subjects to develop human resources who are superior in practical skills;

⑤ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify problems from a broad point of view;

⑥ To provide Common Subjects for the Graduate School (internationalism) to develop the fundamental capabilities required for international research activities; and

⑦ To provide Common Subjects for the Graduate School (sociality) to develop the practical skills for social implementation.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Master’s Course).

【Transdisciplinary Science and Engineering Program (Doctoral Course) 】

In the Transdisciplinary Science and Engineering Program, we organize and execute the education course according to the following policies in order to enable students to achieve the targets that are defined in the diploma policy:

① To ensure that students are engaged in special research organized from both a nature-oriented point of view and a human-oriented point of view in order to develop the specialized knowledge and skills required for the fundamental fields of natural environment, natural disasters, integrated physics, information systems, media, and development technology;

② To provide Common Subjects for the HU Graduate Schools to foster ambition to create “science for sustainable development” from a global point of view, cultivate a cross-disciplinary and international point of view, and encourage interest in and awareness of society and its problems;

③ To ensure that students are engaged in special research under the guidance of a supervisor and two or more subadvisors that include a faculty of the specialized area other than that of the supervisor in order to develop a capability to identify and solve problems from a broad point of view;

④ To provide Common Subjects for the Graduate School (internationalism) to develop the practical capabilities required for international research activities; and

⑤ To provide Common Subjects for the Graduate School (sociality) to develop an ability to solve social problems.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the decision criteria for awarding degrees and evaluation standards for degree theses of Graduate School of Advanced Science and Engineering (Doctoral Course).

【Joint International Master's Programme in Sustainable Development (Hiroshima University and Leipzig University), Graduate School of Advanced Science and Engineering (Master's Course) 】

To enable students to achieve the targets that are defined in the diploma policy, this program organizes and executes the education curriculum according to the following guidelines:

① Basic Subjects are provided to allow students to develop capabilities required for studies regarding sustainable development, such as the capacity for thinking based on a generalized viewpoint and the fundamental ability to explore sustainable development from various points of view.

② Specialization Subjects are provided to deepen understanding of basic theories, techniques, and also applied cases and methods regarding technologies for realizing environmentally sustainable development.

③ Bringing together the various scientific approaches studied up to now, Integration Subjects are provided to deepen students' understanding of sustainable development and to enhance practical skills, as well as to encourage students to explore their research field more deeply, develop their career after graduation and enhance their intellectual curiosity.

④ Master Thesis Classes are provided as a method to acquire the research capabilities and practical skills aimed at the achievement of the SDGs, based on the fundamental principles of sustainable development in environmental studies, in addition to conducting independent research.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning, experiential learning and online classes, depending on the delivery methods of each program, such as lectures, practical skill courses and seminars.

In regards to grading, the standards are clearly outlined in the syllabus, and strict grading is conducted. Thesis defenses will be conducted in accordance with the standards established by Graduate School of Advanced Science and Engineering.

Common Matters

Master's Courses ／ Doctoral Courses

1. By-laws of the Graduate School of Advanced Science and Engineering, Hiroshima University

(Purpose)

Article 1: The purpose of the present By-laws is to stipulate necessary matters that are not stipulated in the Hiroshima University Graduate School Regulations (Regulations No. 2, January 15, 2008; "Hiroshima University Regulations") regarding research and education for students of the Graduate School of Advanced Science and Engineering, Hiroshima University ("Graduate School").

(Purposes of Education and Research)

Article 2: The purposes of education, research, and human resource development at each division in the Graduate School, shall be specified in accordance with the following table:

Division	Purposes of Education and Research / Purpose of Education and Training
Division of Advanced Science and Engineering	(Master's Courses) Not only to cultivate students' knowledge and skills in their own specialized fields but also to provide education with which they can foster their internationalism, cross-disciplinary ability and practical skills for social implementation, thereby developing human resources who are equipped with wide and deep intelligence and integrated understanding of other fields based on high-level expertise in science, engineering, information science and their related research areas and who can work on solution of social problems (Doctoral Courses) To provide education to foster students' prominent knowledge and skills in their own specialized fields and also their internationalism, cross-disciplinary ability, and practical skills for social implementation, thereby developing human resources who are equipped with wide and deep intelligence and integrated understanding of other fields based on high-level expertise in science, engineering, information science and their related research areas and who can serve as next-generation leaders in promoting world-class academic research and creating innovation
Joint International Master's Programme in Sustainable Development (Hiroshima University and Leipzig University)	To cultivate students who possess ability to conduct research and engage in practice based on the fundamental principles of sustainable development in environmental studies, through science and engineering approaches, in order to resolve the pressing regional and global issues related to the SDGs, especially the environmentally-driven development issues caused by the rapid urbanization of developing countries, and those who have excellent collaboration and communication skills and exhibit competitive capability for employment in the international labor market of universities, research institutions, governments and international organizations, the private sectors, and NGO, etc.

2 The purposes of human resource development, education and research of the diploma programs listed in paragraph 1 of the next article shall be as indicated in appended table 1.

(Diploma Program)

Article 3: The Division of Advanced Science and Engineering shall establish the diploma program indicated in each item below:

(1) Mathematics Program
(2) Physics Program
(3) Earth and Planetary Systems Science Program
(4) Chemistry Program
(5) Applied Chemistry Program
(6) Chemical Engineering Program

(7) Electrical, Systems, and Control Engineering Program
(8) Mechanical Engineering Program
(9) Transportation and Environmental Systems Program
(10) Architecture Program
(11) Civil and Environmental Engineering Program
(12) Informatics and Data Science Program
(13) Smart Innovation Program
(14) Quantum Matter Program
(15) Transdisciplinary Science and Engineering Program

2 Students (excluding students in the Graduate School of Advanced Science Engineering Joint International Master's Programme in Sustainable Development (Hiroshima University and Leipzig University) ("The Joint Degree Program")) shall specialize in one of the diploma programs listed in the preceding paragraph.

(Student Quota of Each Diploma Program)

Article 3-2: The student quota of each diploma program shall be as indicated in appended table 2.

(Curricula)

Article 4: The curricula of the Graduate School shall be as indicated in appended table 3.

(Class Subjects and Related Matters)

Article 5: Class subjects to be provided at the Graduate School and their numbers of credits shall be as indicated in the appended table 3.

2 The class timetable shall be published at the beginning of each academic year.

(Standards for Calculation of Credits)

Article 6: The number of credits of each class subject shall be calculated based on the following standards:
(1) For lectures, 15 hours of classwork constitute 1 credit;
(2) For seminars, 15 or 30 hours of classwork constitute 1 credit; and
(3) For experiments and practical exercises, 30 or 45 hours of classwork constitute 1 credit.

2 For class subjects provided in two or more modes in parallel, the number of hours of classwork to be conducted in each mode shall be determined in light of the standards indicated above and so that 45 hours of combined classwork constitute 1 credit.

(Supervisor/Subadvisors)

Article 7: Upon students' enrollment in the Graduate School, the Faculty Council of the Graduate School of Advanced Science and Engineering, Hiroshima University ("Faculty Council"), shall promptly assign to each student a supervisor and two or more subadvisors, who will offer advice and guidance on class subjects and research. The subadvisors must include at least one faculty member whose specialized field is different from that of the supervisor and may be chosen, as the need arises, from teaching faculty members of other Hiroshima University graduate schools or other universities' graduate schools.

2 Notwithstanding the provisions of the preceding paragraph, each student in Joint Degree Program shall be assigned a supervisor and one or more subadvisors.

3 Students wishing to change their supervisor or subadvisors shall obtain approval from the relevant supervisor/subadvisor before applying to and obtaining approval from the Dean of the Graduate School. However, they can directly apply to the Dean of the Graduate School in special circumstances.

4 The Dean of the Graduate School may change students' supervisor or subadvisors, if such change is deemed desirable, upon obtaining approval from the students concerned.

(Registration Procedure)

Article 8: Students must select class subjects in consultation with their supervisor, obtain approval from faculty members in charge of the class subjects, and complete the prescribed procedure to register for the class subjects within the period designated for each semester.

2 Students who fail to complete the procedure as stated in the preceding paragraph shall not be allowed to take class subjects unless there are legitimate circumstances, in which case the students may take class subjects upon obtaining approval from the faculty members in charge of the class subjects concerned.

3 Students may take class subjects offered by other Hiroshima University graduate schools that are deemed necessary by their supervisor, in accordance with the rules of the graduate school concerned.

4 Students of other graduate schools wishing to register for class subjects offered by the Graduate School must complete the prescribed procedure within the designated period for each semester upon obtaining approval from the faculty members in charge of the class subjects concerned.

(Upper Limit of Course Registration)

Article 8-2 With regard to the number of credits that students must acquire as a requirement for completion, the upper limit of the number of credits for which master's course students may register for courses in one semester shall be 26 credits; provided, however, that credits for intensive courses shall be excluded.

2 Notwithstanding the provision of the preceding paragraph, students who have acquired the prescribed credits with outstanding grades as specified separately may be allowed to register for courses in excess of the upper limit of number of credits in the following semester.

(Research Title)

Article 9: Students must promptly decide their research title in consultation with their supervisor after their enrollment in the Graduate School and submit it to the Dean of the Graduate School.

(Special Arrangements of the Education Method)

Article 10: Special arrangements may be made to facilitate the pursuance of the education at the Graduate School, if the Dean of the Graduate School considers it especially necessary from an educational standpoint following deliberations by the Faculty Council, by scheduling classes or research guidance sessions in the evening or at specific hours or during a specific period or devising other appropriate measures.

2 The handling of such special arrangements of the education method shall be indicated separately.

(Long-term Completion of Curricula)

Article 11: The treatment of long-term completion of curricula shall be in accordance with the Hiroshima University By-Laws on the Treatment of Long-term Completion of Curricula (approved by the Vice President [Education/Student] on April 1, 2004).

2 The maximum period of long-term completion of curricula shall be four years in the master's courses and six years in the doctoral courses.

(Students Exchange and Studying Abroad, etc.:)

Article 11-2: When deemed educationally beneficial, the Graduate School may regard the number of credits acquired for class subjects completed in an educational course at another graduate school (including a foreign graduate school and the United Nations University) as having been acquired by completion of class subjects at the Graduate School, provided it does not exceed 15 credits, following deliberations of the Faculty Council.

2 The stipulations set forth in the preceding paragraph shall apply mutatis mutandis in cases where class subjects conducted by a foreign school by correspondence education are completed in Japan.

3 The number of credits that may be regarded as having been acquired in accordance with the stipulations set forth in the preceding 2 paragraphs shall not exceed 15 credits in total.

(Recognition of Credits Acquired Prior to Admission)

Article 12: The Graduate School may, if it considers this to be beneficial from an educational standpoint, recognize credits that students acquired by completing class subjects at other graduate schools in Japan or overseas (including credits acquired as credited auditors) prior to their admission to the Graduate School as credits earned by completing class subjects at the Graduate School.

2 The number of credits other than those acquired at the Graduate School (including credits acquired as credited auditors) that may be recognized as credits earned by completing class subjects at the Graduate School pursuant to the provision of the preceding paragraph shall not exceed 15 credits, except in cases of transfer.

3 The number of credits that may be regarded as having been acquired at the Graduate School in accordance with the stipulations set forth in the preceding article and paragraph, shall not exceed 20 credits in total.

4 The recognition of credits acquired prior to admission to the Graduate School as prescribed in the preceding three paragraphs shall be determined in accordance with the Hiroshima University By-Laws Regarding Approval of Previously Acquired Credits (approved by the Vice President [Education/Student] on April 1, 2004).

(Teaching License)

Article 13: The students in the Division of Advanced Science and Engineering who have acquired necessary credits by completing the class subjects prescribed in the Education Personnel Certification Act (Act No. 147 of 1949) and the Education Personnel Certification Act Enforcement Regulations (Ordinance of the Ministry of Education No. 26 of 1954) are eligible to obtain teacher's licenses of the types and subjects indicated in the table below.

Type of license	Subjects licensed to teach
Advanced level teaching certificate for upper secondary school	Mathematics, science, informatics and engineering
Advanced level teaching certificate for lower secondary school	Mathematics and science

2 The class subjects and their registration procedure in the preceding paragraph shall be indicated separately.

(Requirements for Completing the Master's Courses)

Article 14: To complete a master's course, students need to be enrolled in the course for at least two years, obtain 30 credits or more by completing the class subjects indicated in appended table 3, receive necessary research guidance, submit a master's thesis during the enrollment period, and pass the screening of the thesis and final examination, with the exception of students whom the Dean of the Graduate School recognizes as having achieved outstanding academic performance following deliberations by the Faculty Council, who may be exempt from the enrollment requirement and may complete the course in one year at least.

2 Notwithstanding the preceding paragraph, the students enrolled in the Doctoral Leadership Program as stipulated in the Graduate Schools Regulations Article 25-2, paragraph 1, may replace the requirements of the successful thesis screening and final examination with the following:

(1) An examination on advanced specialized knowledge and skills in the student's area of specialization and basic knowledge and understanding in related areas that must be acquired or cultivated in the master's course concerned; and

(2) A screening on the ability that is required of the student to proactively conduct research leading to a doctoral thesis and that must be acquired in the master's course concerned

(Requirements for Completing Doctoral Courses)

Article 15: To complete a doctoral course, students need to be enrolled in the course for at least three years, obtain 16 credits or more by completing the class subjects indicated in appended table 3, receive necessary research guidance, submit a doctoral thesis during the enrollment period, and pass the screening of the thesis and final examination, with the exception of students whom the Dean of the Graduate School recognizes as having achieved outstanding research results following deliberations by the Faculty Council, for whom an enrollment duration of one year at least shall suffice (for students who completed a master's course whose standard period of study is one year or more but less than two years and students who completed a professional degree program whose standard period of study is one year or more but less than two years, the period obtained by subtracting the period of one year or more but less than two years from three years, and for students who completed a master's course with the enrollment period as prescribed in the proviso of Article 16, paragraph 1 of the Standards for the Establishment of Graduate Schools, the period obtained by subtracting the enrollment duration of the course (up to two years) from three years).

(Requirements for Completing Master's Course (Joint International Master's Programme))

Article 15-2: To complete the master's course, students need to be enrolled in the course for at least two years, obtain 30 credits or more from subjects offered by Hiroshima University and 30 credits or more from subjects offered by Leipzig University (60 credits or more in total) by completing the class subjects indicated in appended table 3, receive necessary research guidance, submit a master's thesis during the enrollment period, and pass the screening of the thesis and final examination.

2 The number of credits in the preceding paragraph shall not include ones that may be regarded as having been acquired in accordance with the stipulations set forth in Article 11-2 and Article 12.

(Shortening of Enrollment Duration in Hiroshima University Graduate School)

Article 15-3: In case that credits that have been acquired prior to being admitted to the Graduate School in accordance with stipulations set forth Item 1 of Article 12 (They are limited to the credits earned after having the qualification for enrollment in accordance with stipulations set in Item 1 of Article 102 in School Education Law (Act No. 26, 1947)) are regarded as having been acquired by completion of class subjects at the Graduate School and when part of curricula of the master's course (excluding Joint International Master's Programme) at the Graduate School is permitted to be completed by earning the said credits, taking the said credits, the duration to acquire the said credits and so on into consideration, the Graduate School may count the term prescribed by the Graduate School as part of the enrollment duration, provided that it does not exceed one year. However, even in this case, the enrollment duration of the said master's course shall be at least one or more years.

2 The preceding paragraph is not applied to the enrollment duration of the doctoral course stipulated in Article 15 of students who completed the master's course.

(Submission of Thesis)

Article 16: The students in the master's courses must submit, upon approval of their supervisor and subadvisors, their master's thesis to the Dean of the Graduate School by the date specified separately.

Article 17: The students in the doctoral courses must submit, upon approval of their supervisor and subadvisors, their doctoral thesis to the Dean of the Graduate School by the date specified separately.

(Thesis Screening)

Article 18: Theses submitted as part of the requirements for academic degrees shall be screened pursuant to the provisions of the Hiroshima University Degree Regulations (Regulations No. 8 of April 1, 2004) and the

Internal Regulations of the Graduate School of Advanced Science and Engineering based on the Hiroshima University Degree Regulations (approved by the Dean of the Graduate School on April 1, 2020).

(Final Examination)

Article 19: The final examination for the master's and doctoral courses shall be taken by the students who have obtained required credits, received necessary research guidance and submitted their prescribed thesis.

2 The date and method of final examination shall be announced in advance.

(Leave of Absence)

Article 20: Students wishing to take a leave of absence must complete the prescribed procedure and obtain approval from the Dean of the Graduate School.

(Withdrawal)

Article 21: Students wishing to withdraw from the university must complete the prescribed procedure and obtain approval from the President of the University.

(Transfer)

Article 22: Students wishing to transfer to another graduate school must complete the prescribed procedure and apply to the President of the University.

(Re-admission)

Article 23: Students who discontinued their studies in the master's or doctoral course (excluding for reason of disciplinary dismissal) or were removed from the register (excluding removal from the register pursuant to the provisions of Article 43, item (2) of the Hiroshima University General Provisions (April 1, 2004 Regulation No. 2) as applied mutatis mutandis pursuant to Item 1 of Article 42 of the Hiroshima University Regulations) and who wish to apply for re-admission to the course may apply to the President of the University only at the beginning of a semester, following deliberations by the Faculty Council.

2 The year of study and the number of years that students re-admitted to the Graduate School may remain in their respective course shall be indicated separately.

(Change of Division)

Article 23-2: In principle students are not permitted to change their divisions. However, in a case where a special reason has been admitted in the Faculty Council, further measures will be taken.

(Change in Diploma Programs)

Article 24: Students in the Division of Advanced Science and Engineering wishing to change their diploma programs must obtain approval from the Dean of the Graduate School following deliberations by the Faculty Council.

(Miscellaneous Regulations)

Article 25: Any necessary matters relevant to education in the Graduate School not stipulated in the present By-laws shall be determined separately following deliberations by the Faculty Council.

(Supplementary Provisions Omitted)

Appended Table 1 (Article 2, 2)

Diploma program	Master's courses	Doctoral courses
Mathematics Program	The course strives to foster engineers who are equipped with high-level mathematics research skills and specialized capability in their specialized fields; who boast extensive knowledge regarding mathematics; who can solve problems in cooperation with researchers, educators, mathematicians, etc.; and who can carry out application, analysis, evaluation and integration of their expertise for creative activities. The course also aims to develop researchers equipped with high-level, specialized capability with which they can work on mathematical problems occurring in industrial society and other fields of science.	The course strives to foster engineers who are equipped with prominent mathematics research skills and specialized capability in their specialized fields; who boast extensive knowledge regarding mathematics; who can solve problems in cooperation with researchers, educators, mathematicians, etc.; and who can carry out application, analysis, evaluation and integration of their expertise for creative activities. The course also aims to develop researchers equipped with learning based on a global perspective and also with high-level, specialized capability with which they can perform mathematics research independently and work on mathematical problems occurring in industrial society and other fields of science.
Physics Program	Composed of a wide range of physics, which is the foundation of natural science, such as astrophysics/astronomy, elementary particle/ nuclear physics, condensed matter physics using advanced light sources, and synchrotron radiation science, the course strives to enable students to learn techniques to explore specialized knowledge and truth; and to foster researchers, educators and high-level, specialized engineers who can contribute to solving social problems with a wide field of view, flexible thinking ability, and research and development ability.	Composed of a wide range of physics, which is the foundation of natural science, such as astrophysics/astronomy, elementary particle/ nuclear physics, condensed matter physics using advanced light sources, and synchrotron radiation science, the course strives to enable students to learn techniques to explore specialized knowledge and truth; and to foster researchers, educators and high-level, specialized engineers who can contribute to solving social problems with a wide field of view, flexible thinking ability, and a prominent ability to work on research and development in the global arena.
Earth and Planetary Systems Science Program	The course aims to enable students to obtain world-class expertise and research skills in basic and applied areas of earth and planetary science; and to foster researchers, educators, and high-level, specialized engineers who can contribute to solving social problems from a broad perspective.	The course aims to enable students to obtain globally high-level expertise and prominent research skills in basic and applied areas of earth and planetary science; and to foster researchers, educators, and high-level, specialized engineers who can contribute to solving social problems from a broad perspective.
Chemistry Program	The course strives to develop researchers and high-level, specialized engineers who have expertise and experimental skills in areas of chemistry, who can promote advanced research from a broad perspective, and who can contribute to solving social problems. The course also aims to foster	The course strives to develop researchers and high-level, specialized engineers who have high-level expertise and experimental skills in areas of chemistry, who can promote advanced research from a broad perspective with an eye on global issues, and who can contribute to

	educators who have expertise and knowledge in areas of chemistry and who can hand down the universal chemical laws and fundamental principles into the future.	solving social problems. The course also aims to foster educators who have high-level expertise and knowledge in areas of chemistry and who can hand down the universal chemical laws and fundamental principles into the future.
Applied Chemistry Program	The course strives to foster researchers and high-level, specialized engineers who can analyze physical properties, structures, reactivity, etc. of materials on the molecule level, can design and develop new functional materials, and can connect such analysis, design and development with new chemical systems; who are equipped with an understanding of a wide range of fields; and who can contribute to society by taking a chemical approach in phases, from design of environmentally safe molecules and responses to development of environmentally harmonious processes.	The course strives to foster researchers and high-level, specialized engineers who are equipped with practical research capabilities to solve social problems from a high perspective based on their ability to create new functional materials and new energy sources and their understanding of a wide range of fields; who boast the ability to establish distinctive research plans and a global mind; and who can serve as instructors.
Chemical Engineering Program	The course aims to develop high-level, specialized engineers and researchers who can identify and solve problems from local and global points of view based on their knowledge regarding chemistry and chemical engineering and who can underpin development of the manufacturing industry, including the chemical industry in the next generation.	The course aims to develop high-level, specialized engineers and researchers who can identify and solve problems from local and global points of view based on their high-level knowledge regarding chemistry and chemical engineering, who can demonstrate their ability in the global arena, and who can underpin development of the manufacturing industry, including the chemical industry in the next generation.
Electrical, Systems, and Control Engineering Program	The course strives to develop high-level, specialized engineers and researchers who can take a leading role in development of advanced technology based on a wide range of basic knowledge required for effectively operating actual systems that support society, such as a large and complicated system and a system organically integrated with humans, from the perspective of system engineering, as well as based on specialized knowledge of state-of-the-art technology and applications.	The course strives to develop high-level, specialized engineers, researchers and educators who can develop new methods for analysis, design, control and operation of actual systems that support society, such as a large and complicated system and a system organically integrated with humans, based on mathematical fundamentals from the perspective of system engineering; and who can make cross-disciplinary and cross-sectional responses and take a global perspective to address challenges that humans have never experienced before.
Mechanical Engineering Program	The course aims to develop researchers and high-level, specialized engineers who can work on research and development for next-generation machine design and manufacturing technology, as well as for optimization, functional enhancement and intellectualization of next-generation	The course aims to develop researchers and high-level, specialized engineers who can lead advanced, high-level research and development for next-generation machine design and manufacturing technology, as well as for optimization, functional enhancement and intellectualization of

	machine systems, from a wide and global perspective based on specialized knowledge regarding mechanical engineering and a wide range of knowledge and intelligence required for its engineering application.	next-generation machine systems, from a wide and global perspective based on high-level, specialized knowledge regarding mechanical engineering and a wide range of knowledge and intelligence required for its engineering application.
Transportation and Environmental Systems Program	The course aims to enable students to create and establish a system for coexistence in which artificial objects, such as transport equipment, and the natural environment exist together in harmony on the basis of a wide range of basic and applied knowledge regarding transportation system engineering and environmental system engineering; and to comprehensively solve social problems while realizing the integration of understanding with the other area of expertise. By doing so, the course strives to produce high-level, specialized engineers and researchers who can perform advance research.	The course aims to enable students to create and establish a system for coexistence in which artificial objects, such as transport equipment, and the natural environment exist together in harmony on the basis of a wide range of basic and applied knowledge regarding the transportation system engineering and environmental system engineering; and to comprehensively solve social problems while realizing the integration of understanding with the other area of expertise. By doing so, the course strives to produce high-level, specialized engineers and researchers who can perform advance research.
Architecture Program	The course aims to develop high-level, specialized engineers and researchers who are equipped with expertise regarding architecture planning, structures, design, the environment, materials and production/ urban planning and with practical ability to integrate such knowledge; and who can work on the development of technology that meets the needs of the users of architecture and society and other activities at home or abroad.	The course aims to develop high-level, specialized engineers, researchers and educators who are equipped with expertise regarding architecture planning, structures, design, the environment, materials and production /urban planning and with practical ability to integrate such knowledge; and who can lead the development of technology that meets the needs of the users of architecture and society and other activities at home or abroad.
Civil and Environmental Engineering Program	The course strives to foster high-level, specialized technocrats who are equipped with extensive knowledge in the field of civil and environmental engineering, high ethics and a lofty sense of their missions and who can lead domestic and overseas efforts to establish/maintain social infrastructure, prevent disasters and conserve the environment; high-level, specialized engineers who can solve problems regarding social infrastructure both at home and abroad based on their high-level management ability and global perspective; and researchers who can underpin the development of cutting-edge technologies that will contribute to establishing social infrastructure, preventing disasters, and conserving global and regional environments.	The course strives to foster leading technocrats who are equipped with extensive knowledge in the field of civil and environmental engineering and the ability to solve problems and who can lead national and regional efforts to establish/maintain social infrastructure and prevent disasters; construction engineers who can comprehensively address problems regarding social infrastructure both at home and abroad based on their high-level skills and management ability; high-level, specialized engineers and researchers, including environmental engineers, who can trailblaze new industrial fields in terms of the conservation of the natural environmental and the development of recycling technologies; and researchers and educators who work under a lofty sense of their missions in the field of

		civil and environmental engineering in order to create a new, promising specialty toward the conservation of the global environment, identify and solve individual, specific problems, and contribute to the development of globally advanced scientific technology.
Informatics and Data Science Program	The course aims to foster globally minded, high-level, specialized engineers and researchers who can implement high-level technology in the fields of advanced research and development based on their knowledge and skills of informatics and data science in order to address social and cross-disciplinary problems; and who are equipped with excellent qualities to promote research and development as a team member.	The course aims to foster globally minded, high-level, specialized engineers and researchers who can implement high-level technology in the fields of advanced research and development based on their knowledge and skills of informatics and data science in order to address social and cross-disciplinary problems; and who are equipped with excellent qualities to promote research and development by demonstrating leadership.
Smart Innovation Program	This program aims to develop human resources using model and data: a. who can directly connect digital manufacturing technology to industry, and b. who can create a new industrial field. (1) Researcher/developer engaged in basic R&D for creating a new smart material and system (2) Technology developer who is work-ready for a manufacturing field of an enterprise (3) Innovator engaged in digital manufacturing	This program aims to develop human resources who can take leadership to connect digital manufacturing technology to industry. It also aims to foster professional human resources who will lead the creation of new industries. (1) Research/development manager who leads activities in areas related to new smart materials and systems (2) Technology development supervisor who can exercise leadership in a manufacturing field of a business enterprise (3) Person who can take leadership for innovation in digital manufacturing
Quantum Matter Program	The course strives to develop researchers, educators, and high-level, specialized engineers who are equipped with expertise regarding materials science, condensed material physics, material science and engineering, and electronic engineering; and who are able to contribute to international and local societies by applying their expertise to creation, design, and realization of materials, devices, and systems that have new functions required by society.	The course strives to develop creative researchers, educators, and high-level, specialized engineers who are equipped with expertise regarding materials science, condensed material physics, material science and engineering, and electronic engineering; and who are able to contribute to international and local societies by applying their expertise to creation, design, and realization of materials, devices, and systems that have new functions required by society.
Transdisciplinary Science and Engineering Program	The course strives to develop researchers and educators who understand a nature-oriented point of view and a human-oriented point of view; who can demonstrate their ability not only in Japan but also in the global arena; and who are equipped with research abilities, expertise, specialized	The course strives to develop researchers and educators who can trailblaze new academic fields by understanding a nature-oriented point of view and a human-oriented point of view, demonstrating their ability not only in Japan but also in the global arena, and obtaining research abilities,

	skills, and cross-disciplinary points of view in the areas of core expertise and related areas, such as the natural environment, natural disasters, integrated physics, information systems, media, and development technology. The course also aims to foster government officials and high-level, specialized professionals with a bird's eye view and problem-solving capability based on understanding of diverse cultures and global insight.	expertise, specialized skills, and cross-disciplinary points of view in the areas of core expertise and related areas, such as the natural environment, natural disasters, integrated physics, information systems, media, and development technology. The course also aims to foster world-class government officials and high-level specialized professionals with a bird's eye view and problem-solving capability based on understanding of diverse cultures and global insight.

Appended Table 2 (Article 3-2) (Omitted)

2. Class Registration Procedure

Please complete the following procedure in line with the By-laws of the Graduate School of Advanced Science and Engineering, Hiroshima University (Article 8).

(1) Class Registration Procedure

① For your class registration, please complete the necessary procedure through My Momiji, using an on-campus or off-campus PC.

My Momiji is a personal online page which you can access via the Student Information Network Momiji, the online portal for Hiroshima University's students.

Student Information Network Momiji: https://momiji.hiroshima-u.ac.jp/momiji-top/en/index.shtml

② If you cannot register for classes through My Momiji due to some reason, please contact the support office in charge of your program (e.g. support office in charge of your master's/doctoral course).

(2) Class Registration Period

① In principle, you need to complete your class registration within one week from the first class-day of each semester or each term.

② For the specific schedule, please check the Student Information Network Momiji.

③ In principle, you cannot register for classes or change your registration after the class registration period.

④ There are cases where schools and graduate schools set their own class registration periods for intensive lectures and other programs. In these cases, please check relevant notices on My Momiji or contact the support office of the relevant school or graduate school (e.g. support office in charge of the relevant master's/doctoral course).

⑤ Other information related to class registration is provided through My Momiji or other means.

*** My Momiji**

Since information from the university to students is provided through My Momiji, please be sure to log in to My Momiji and check it at least once a day. If My Momiji does not work properly, however, necessary information is posted on your graduate school's bulletin board. In addition, important information is also posted on the bulletin board.

Please be careful not to forget to check the Momiji Message board. Any disadvantage caused by not checking the Momiji Message board is your responsibility.

3. Research Ethics Education

In August 2014, the "Guidelines for Responding to Misconduct in Research" were adopted by the Ministry of Education, Culture, Sports, Science and Technology. In AY 2015, Hiroshima University made it mandatory for faculty members engaged in research activities to receive research ethics education accordingly.

In addition, the "Outline of the 3rd Graduate School Education Promotion Measures" (decided by the Ministry of Education, Culture, Sports, Science and Technology in March 2016) requires universities to make more efforts in providing research ethics education and improving their systems for supervising and examining doctoral theses, in order to ensure that students are fully aware of the norms regarding research ethics and to secure international credibility of doctoral degrees granted by the universities. In line with this, Hiroshima University has introduced Research Ethics Education for Students.

At the Graduate School of Advanced Science and Engineering, we provide Research Ethics Education for Students as follows:

① **Research Ethics Education: Graduate School Students - Basic**

Period: When a research ethics seminar is held as part of a freshman orientation session (April or October)

Participant unit: All freshmen

Style: Hiroshima University Virtual Learning Environment (Hirodai moodle)

Attendance check: Studetns' attendance are confirmed during a lecture.

Other: (1) If you cannot take the lecture above due to unavoidable circumstances (e.g. students in full time employment), you need to take the relevant APRIN e-leaning course.

(APRIN Course)

Graduate School of Advanced Science and Engineering Graduate Students: Basic Course

(Unit)

Research Misconduct_RCR-S

Ethical Issues in the Management of Data in Engineering Research_RCR-S

Responsible Authorship_RCR-S

(2) If you had already received Research Ethics Education (Graduate School Students - Basic) at the time of enrollment in your master's courses, you are exempt from receiving Research Ethics Education (Graduate School Students – Basic) at the time of enrollment in your doctoral course.

② **Research Ethics Education: Graduate School Students – Advanced (M) and Advanced (D)**

Period: Students in master's courses need to receive Research Ethics Education (Graduate School Students – Advanced [M]) before beginning to prepare their master's theses, while students in doctoral courses need to receive Research Ethics Education (Graduate School Students – Advanced [D]) before beginning to prepare their doctoral thesese.

(Students expected to complete their courses in March / September need to receive the necessary education by October / April in their final academic year respectively.)

Participant unit: Laboratory unit in principle (Two or more laboratories can jointly implement the education.)

Provider: Supervisor in principle

Style: In a discussion style as part of "Special Research", a research guidance subject of each diploma program, using Section IV (in Japanese and English) of the JSPS textbook named "*For the Sound Development of Science"* and other relevant handouts (in Japanese, English and Chinese). A relevant faculty member and students read the textbook closely, the students are required to make a summary, and the faculty member asks the students questions based on their summary. By doing so, the faculty member and the students discuss cases of misconduct referred to in the textbook, problems occurring in their specialized fields and other general problems.

Attendance check: Completion Certificates (with the relevant faculty member's signature) are used to confirm students' attendance. After implementing Research Ethics Education, the relevant faculty member needs to submit the Completion Certificates promptly to the support office in charge of the relevant diploma program (e.g. support office in charge of the relevant master's/doctoral course).

Other: (1) If you cannot take the discussion-style Research Ethics Education above due to unavoidable circumstances (e.g. students in full time employment), you need to take the relevant APRIN e-leaning with approval from your supervisor.

(APRIN Course)

Graduate School of Advanced Science and Engineering Graduate Student: Advanced Course

(Unit)

Responsible Authorship_RCR-S

(2) Even if you had already received Research Ethics Education (Graduate School students - Advanced [M]) at the time of completing your master's course, you must receive Research Ethics Education (Graduate School Students – Advanced [D]) by the time of completing your doctoral course.

4. Graduate Skill Up Subjects

The following subjects are offered at Hiroshima University Graduate School as subjects that all graduate students can take to improve their skills.
In principle, check the syllabus and registration subjects by using "My Momiji".

<Courses opened in FY2026>

Subjects	No. of Credits	Establishment department
Curriculum Development for Chinese Language Education I	1	Institute for Foreign Language Research and Education
Curriculum Development for Chinese Language Education II	1	
Curriculum Development for Chinese Language Education III	1	
Curriculum Development for Chinese Language Education IV	1	
Principles and Methods of Academic Writing for Prospective College Teachers	2	Writing Center
Qualitative Research Methods: Discourse Analysis and Multimodality	2	
Genre-based Pedagogy I: Curriculum and Lesson Development	1	
Genre-based Pedagogy II: Self-directed Learning of English Literacies and Disciplinary Literacies	1	
Technology-enhanced Research Writing	2	
Career management course by female researchers	1	Headquarters for Education
Basic Preparing Future Faculty Course	2	Center for Academic Practice and Resources
Preparing Future Faculty Program Basic	2	
Introduction to topology	2	International Institute for Sustainability with Knotted Chiral Meta Matter
Introduction to homotopy theory & its applications to physical systems	2	
Chiral Knot Special Lectures	1	

＊Please note that some courses may not be offered depending on the year.

5. The HIRAKU Practical Training Program

Global Career Design Center ("GCDC") provides "the HIRAKU Practical Training Program" to doctorate students (D) and postdocs (PD) in early research career. It aims to nurture active researchers that will challenge new areas/disciplines. The HIRAKU Practical Training Program mainly consists of the subject classes/courses or seminars/events programmed by GCDC, to help you gain transferrable knowledge/skills to be maximized in the diversified opportunities in the society.
You can leverage our core IT system called "Young Researchers' Portfolio (or HIRAKU-PF)" as well, to keep track of your training/development record, to self-assess your competencies as a researcher, and to understand your strengths or selling points. You can also raise a counseling request via the system to receive relevant guidance and advice to develop your career. Please log in the system now to enjoy the multiple functions to assist you.

Subjects	Establishment department
Innovation Practice	GCDC
Pathway to becoming a Data Scientist	
Career Management Seminar	
Long-term internship	
Skills and Arts of Leadership	
HIRAKU 3MT Competition	
Advanced Career Management	
Stress Management	
Principles and Methods of Academic Writing for Prospective College Teachers	Writing Center
Basic Preparing Future Faculty Course	Center for Academic Practice and Resources
Developing Designing Ability	Graduate School of Advanced Science and Engineering
Technology Transfer	
Technology Strategy for Management	
Intellectual Property, Finance and Accounting	
MOT and Venture Business	
Nano Bio Chemistry Symposium	

Master’s Course

6. Class Subjects and Registration (Master's Courses)

Appended Table 3 (Article 4 and Article 5, 1)
Mathematics Program Master's Course

Subject Type		Subjects	Eligible Class Year (Note)	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Mathematical Omnibus	1	2		14	25 or more
		Exercises in Mathematics	1～2	4			
		Exercises in Mathematics A	1	2			
		Exercises in Mathematics B	1	2			
		Seminar in Mathematics	1～2	4			
		Algebra Seminar I	1～2		4	4 or more	
		Algebra Seminar II	1～2		4		
		Topology Seminar	1～2		4		
		Differential Geometry Seminar	1～2		4		
		Mathematical Analysis Seminar I	1～2		4		
		Mathematical Analysis Seminar II	1～2		4		
		Mathematical Statistics Seminar	1～2		4		
		Probability Seminar	1～2		4		
		Geometric and Algebraic Analysis Seminar	1～2		4		
		Algebra A	1・2		2		
		Algebra B	1・2		2		
		Topics in Algebra A	1・2		2		
		Topics in Algebra B	1・2		2		
		Topics in Algebra C	1・2		2		
		Topics in Algebra D	1・2		2		
		Geometry A	1・2		2		
		Geometry B	1・2		2		
		Topics in Geometry A	1・2		2		
		Topics in Geometry B	1・2		2		
		Topics in Geometry C	1・2		2		

Subject Type	Subjects	Eligible Class Year (Note)	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Topics in Geometry D	1・2		2		
	Mathematical Analysis A	1・2		2		
	Mathematical Analysis B	1・2		2		
	Topics in Mathematical Analysis A	1・2		2		
	Topics in Mathematical Analysis B	1・2		2		
	Topics in Mathematical Analysis C	1・2		2		
	Topics in Mathematical Analysis D	1・2		2		
	Probability and Mathematical Statistics A	1・2		2		
	Probability and Mathematical Statistics B	1・2		2		
	Probability and Mathematical Statistics C	1・2		2		
	Probability and Mathematical Statistics D	1・2		2		
	Topics in Probability and Mathematical Statistics A	1・2		2		
	Topics in Probability and Mathematical Statistics B	1・2		2		
	Topics in Probability and Mathematical Statistics C	1・2		2		
	Topics in Probability and Mathematical Statistics D	1・2		2		
	Geometric and Algebraic Analysis A	1・2		2		
	Geometric and Algebraic Analysis B	1・2		2		
	Geometric and Algebraic Analysis C	1・2		2		
	Special Lectures in Mathematics	1・2		1		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Mathematics Program: 18 or more credits (14 credits of compulsory subjects and 4 or more credits of compulsory elective subjects)

If you have taken Special Lectures in Mathematics multipletimes, you can include up to 8 credits of them in Necessary No. of Credits for Completing Your Course.

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Physics Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Introductory Course to Advanced Physics	1	2		10	25 or more
		Special Exsecise in Physics A	1	2			
		Special Exsecise in Physics B	1	2			
		Special Research in Physics	1～2	4			
		Quantum Field Theory	1		2	8 or more	
		Elementary Particle Physics	1		2		
		Lattice Quantum Chromodynamics	1		2		
		Thermal quantum field theory	1		2		
		Relativistic Cosmology	1		2		
		Quark Physics	1		2		
		X-ray and Gamma-ray Astrophysics	1		2		
		Observational Astronomy in Optical and Near-Infrared Region	1		2		
		Special Topics in Synchrotron Radiation Science A	1		1		
		Special Topics in Synchrotron Radiation Science B	1		1		
		Materials Structure Physics	1		2		

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Electronic Properties of Condensed Matter	1		2		
	Optical Properties of Solids	1		2		
	Surface Physics	1		2		
	Laboratory in Synchrotron Radiation Science	1		1		
	Special Lecture in Physics A	1・2		1		
	Special Lecture in Physics B	1・2		1		
	Special Lecture in Physics C	1・2		1		
	Special Lecture in Physics D	1・2		1		
	International Research Internship	1・2		2		
	Exercise in Physics I	1		2		
	Exercise in Physics II	1		2		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Physics Program: 18 or more credits (10 credits of compulsory subjects and 8 or more credits of compulsory elective subjects)

If you have taken Special Lecture in Physics A, Special Lecture in Physics B, Special Lecture in Physics C or Special Lecture in Physics D multipletimes, you can include them in Necessary No. of Credits for Completing Your Course.

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Earth and Planetary Systems Science Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Integrated Seminar on Earth and Planetary Systems Science	1	2		11 or more	25 or more
		Midterm Exercise for Earth and Planetary Systems Science	2	1			
		Special Exercise for Earth and Planetary Systems Science A	1	2			
		Special Exercise for Earth and Planetary Systems Science B	1	2			
		Special Study for Earth and Planetary Systems Science	1～2	4			
		Survey of Earth and Planetary Systems Science	1		2	7 or more	
		Evolution of the Solar System	1・2		2		
		History of the Earth	1		2		
		Geodynamics	1・2		2		
		Fault and Earthquake	1・2		2		
		Deep Earth Materials Science	1・2		2		
		Analytical Techniques for Earth and Planetary Materials Science	1・2		2		
		Special Lecture on Earth and Planetary Systems Science A	1・2		1		
		Special Lecture on Earth and Planetary Systems Science B	1・2		2		
		Exercise for Globalization I	1・2		1		
		Exercise for Globalization II	1・2		1		
		Externship for Earth and Planetary Systems Science	1・2		1		
		Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Earth and Planetary Systems Science Program: 18 or more credits (11 credits of compulsory subjects and 7 or more credits of compulsory elective subjects)

If you have taken Special Lecture on Earth and Planetary Systems Science A, Special Lecture on Earth and Planetary Systems Science B, or Externship for Earth and Planetary Systems Science multipletimes, you can include them in Necessary No. of Credits for Completing Your Course.

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1･2: Register regardless of your year

Chemistry Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio -nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Introduction to Physical Chemistry	1	2		14 or more	25 or more
		Introduction to Inorganic Chemistry	1	2			
		Introduction to Organic Chemistry	1	2			
		Exercises in Chemistry A	1	2			
		Exercises in Chemistry B	1	2			
		Master's Thesis in Chemistry	1～2	4			
		Structural Physical Chemistry	1・2		2	4 or more	
		Solid State Chemistry	1・2		2		
		Coordination Chemistry	1・2		2		
		Analytical Chemistry	1・2		2		
		Organic Stereochemistry	1・2		2		
		Photochemistry of Advanced Material	1・2		2		
		Radiation Chemistry	1・2		2		
		Quantum Chemistry	1・2		2		
		Chemical Kinetics and Dynamics	1・2		2		

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Organic Reaction Chemistry	1・2		2		
	Synthetic Organic Chemistry	1・2		2		
	Chiral Topological Solitons	1・2		2		
	Special Lectures in Chemistry A	1・2		1		
	Special Lectures in Chemistry B	1・2		1		
	Special Lectures in Chemistry C	1・2		1		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Chemistry Program: 18 or more credits (14 credits of compulsory subjects and 4 or more credits of compulsory elective subjects)

If you have taken Specal Lectures in Chemistry A, Specal Lectures in Chemistry B or Specal Lectures in Chemistry C multiple times, you can include up to 4 credits of them in Necessary No. of Credits for Completing Your Course.

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Applied Chemistry Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits		
				Compulsory	Compulsory Elective			
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more		2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1			
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1			
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1			
		Academic approach to SDGs - A	1・2		1			
		Academic approach to SDGs - B	1・2		1			
		Practical Approach to SDGs	1・2		1			
		Understanding diversity and Inclusion	1・2		1			
		Climate Change Adaptation and Mitigation	1・2		1			
		Innovation and Practice for Smart Society	1・2		1			
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more		
		Data Literacy in Medicine	1・2		1			
		Advanced Career Management	1・2		2			
		Stress Management	1・2		2			
		Information security	1・2		1			
		Long-term internship	1・2		2			
		Introduction to MOT	1・2		1			
		Entrepreneurship	1・2		1			
		Introduction to Informatics I	1・2		1			
		Introduction to Informatics II	1・2		1			
		Introduction to Basic ScienceResearcher	1・2		1			
		Career Developments in Semiconductor Industry	1・2		1			
		Career Management Course for International Students A	1・2		1			
		Career Management Course for International Students B	1・2		1			
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more		3 or more
		Exercises in International Academic Studies A	1・2		1			
		Exercises in International Academic Studies B	1・2		2			
	Sociality	MOT and Venture Business	1・2		1	2 or more		
		Technology Strategy for Management	1・2		1			
		Intellectual Property, Finance and Accounting	1・2		1			
		Technology Transfer	1・2		1			
		International Standardization for Rule Making	1・2		1			
		Business Creation Practicum	1・2		1			
		Introduction to Fieldwork Method and Practice	1・2		1			
		Internship	1・2		1			
		Data Visualization A	1・2		1			
		Data Visualization B	1・2		1			
		Principles of Environment A	1・2		1			
		Principles of Environment B	1・2		1			
		Chiral Knot Special Seminar I	1・2		2			
		CMOS Process Training	1・2		1			
		Modern Society and Semiconductor Technology	1・2		1			
Subjects Specialized for the Program	Core Subjects	Advanced Porous Material	1		2	8 or more	18 or more	25 or more
		Organic Material Chemistry	1		2			
		Advanced Inorganic Materials Chemistry	1		2			
		Functional Dye Chemistry	1		2			
		Supramolecular Chemistry	1		2			
		Polymer Materials Chemistry	1		2			
		Hybrid Materials Chemistry	1		2			
		Special Exercises on Applied Chemistry A	1	2		8		
		Special Exercises on Applied Chemistry B	1	2				
		Special Study on Applied Chemistry	1～2	4				
		Physical Properties of Organic Compounds	1・2		2			
		Environmental Polymer Chemistry	1・2		2			
		Advanced Magnetic Resonance in Chemistry	1・2		2			
		Advanced Coordination Chemistry	1・2		2			
		Stimuli-Responsive Materials	1・2		2			
		Biomaterial Engineering	1・2		2			

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits
			Compulsory	Compulsory Elective	
	Nanomaterials Chemistry	1・2		2	
	Developing Debating Skills	1・2		1	
	Advanced Computational Chemistry	1・2		2	
	Special Lecture on Applied Chemistry A	1・2		1	
	Special Lecture on Applied Chemistry B	1・2		1	
	Special Lecture on Applied Chemistry C	1・2		1	
	Special Lecture on Applied Chemistry D	1・2		1	
	Subjects Specialized for Other Programs				2 or more

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits
- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits
- Subject Specialized for the Applied Chemistry Program: 18 or more credits (8 credits of compulsory subjects and 8 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.
- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Chemical Engineering Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program	Core Subjects	Fine Particle Technology	1・2		2	8 or more	25 or more
		Advanced Heat Transfer Engineering	1・2		2		
		Advanced Environmental Chemistry Engineering	1・2		2		
		Thermal Fluid Process Engineering	1・2		2		
		Advanced Surface Control Engineering	1・2		2		
		Complex Fluid Dynamics	1・2		2		
		Special Exercises on Chemical Engineering A	1	2		8	18 or more
		Special Exercises on Chemical Engineering B	1	2			
		Special Study on Chemical Engineering	1～2	4			
		Advanced Soft Materials Processing	1・2		2		
		Advanced Supercritical Fluid Process	1・2		2		
		Particle Surface Chemistry	1・2		2		
		Advanced Reaction Process Engineering	1・2		2		
		Advanced Transport Phenomena	1・2		2		
		Advanced Chemical Plant Engineering and Construction	1・2		2		
		Special Lecture on Chemical Engineering A	1・2		1		
		Special Lecture on Chemical Engineering B	1・2		1		
		Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits
- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits
- Subject Specialized for the Chemical Engineering Program: 18 or more credits (8 credits of compulsory subjects and 8 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.
- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1･2: Register regardless of your year

Electrical, Systems, and Control Engineering Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Special Exercises on Electrical, Systems, and Control Engineering A	1	2		8 or more	25 or more
		Special Exercises on Electrical, Systems, and Control Engineering B	1	2			
		Special Study on Electrical, Systems, and Control Engineering	1～2	4			
		Mathematics A	1・2		2	10 or more	
		Mathematics B	1・2		2		
		Mathematics C	1・2		2		
		Mathematics D	1・2		2		
		Mathematics E	1・2		2		
		Advanced Topics in Biomimetics	1・2		2		
		Advanced System Control	1・2		2		
		Advanced Social Systems Engineering	1・2		2		
		Advanced Cybernetics Engineering	1・2		2		
		Advanced Smart Sensing	1・2		2		
		Advanced Power System Engineering	1・2		2		
		Advanced Cybernetics Engineering	1・2		2		
		Advanced Scheduling	1・2		2		
		Advanced Applied Mathematical Sciences	1・2		2		
		Electric Power System Operation	1・2		2		
		Advanced Robotics	1・2		2		
		Advanced Human Systems Augmentation	1・2		2		

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Advanced Learning Systems	1・2		2		
	Advanced Power Electronics	1・2		2		
	Advanced Model Based Development	1・2		2		
	Special Lecture on Electrical, Systems, and Control Engineering A	1・2		2		
	Special Lecture on Electrical, Systems, and Control Engineering B	1・2		2		
	Special Lecture on Electrical, Systems, and Control Engineering C	1・2		2		
	Special Lecture on Electrical, Systems, and Control Engineering D	1・2		2		
	Special Lecture on Electrical, Systems, and Control Engineering E	1・2		2		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Electrical, Systems, and Control Engineering Program: 18 or more credits (8 credits of compulsory subjects and 10 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Mechanical Engineering Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Special Exercises on Mechanical Engineering A	1	2		8	25 or more
		Special Exercises on Mechanical Engineering B	1	2			
		Special Study on Mechanical Engineering	1～2	4			
		Advanced Fluid Mechanics	1・2		2	10 or more	
		Advanced Machinery Dynamics	1・2		2		
		Advanced Reactive Gas Dynamics	1・2		2		
		Applied Fracture Mechanics	1・2		2		
		Mechanical Behavior and Strength of Engineering Materials	1・2		2		
		Advanced Solid Mechanics	1・2		2		
		Advanced Control Engineering	1・2		2		
		Control System Design	1・2		2		
		Mechanical Engineering Design	1・2		2		
		Bio-inspired Machine Intelligence	1・2		2		
		Advanced Autonomous Systems Engineering	1・2		2		
		Advanced Thermal Engineering	1・2		2		
		Advanced Plasma Engineering	1・2		2		
		Theory of Engineering Elasto-plasticity	1・2		2		
		Optimization of Structural and Process Design	1・2		2		
		Advanced Combustion Engineering	1・2		2		

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Combustion	1・2		2		
	Advanced Microstructure of Materials	1・2		2		
	Welding and Joining Engineering	1・2		2		
	Advanced Energy Plant	1・2		2		
	Advanced Manufacturing Management Systems	1・2		2		
	Advanced Precision Machining	1・2		2		
	Nuclear Energy Applications	1・2		2		
	Advanced Biomass Resources	1・2		2		
	Advanced Biofuel Engineering	1・2		2		
	Advanced Quantum Materials Engineering	1・2		2		
	Exercise of radiation measurement	1・2		2		
	Advanced High-energy Beam Material Processing	1・2		2		
	Special Lecture on Mechanical Engineering A	1・2		2		
	Special Lecture on Mechanical Engineering B	1・2		2		
	Special Lecture on Mechanical Engineering C	1・2		2		
	Special Lecture on Mechanical Engineering D	1・2		2		
	Special Lecture on Mechanical Engineering E	1・2		2		
	Special Lecture on Mechanical Engineering F	1・2		2		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Mechanical Engineering Program: 18 or more credits (8 credits of compulsory subjects and 10 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Transportation and Environmental Systems Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Special Exercises on Transportation and Environmental Systems A	1	2		8	25 or more
		Special Exercises on Transportation and Environmental Systems B	1	2			
		Special Study on Transportation and Environmental Systems	1～2	4			
		Advanced Strength of Material	1・2		2	10 or more	
		Advanced Computational Fluid Dynamics	1・2		2		
		Seakeeping and Airworthiness for Ships and Aircrafts	1・2		2		
		System Planning	1・2		2		
		Advanced Instrumentation and Control for Structures	1・2		2		
		Computational Fracture Mechanics	1・2		2		
		Advanced Remote Sensing Engineering	1・2		2		
		Advanced Aerodynamics	1・2		2		
		Advanced composite materials engineering	1・2		2		
		Observational Physical Oceanography	1・2		2		
		Advanced Aeronautics and Astronautics Engineering	1・2		2		
		Advanced Sea-State Prediction and Ship Weather Routing	1・2		2		

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Transportation and Environmental Systems Internship	1・2		1		
	Special Lecture on Transportation and Environmental Systems A	1・2		1		
	Special Lecture on Transportation and Environmental Systems B	1・2		1		
	Special Lecture on Transportation and Environmental Systems C	1・2		1		
	Special Lecture on Transportation and Environmental Systems D	1・2		1		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Transportation and Environmental Systems Program: 18 or more credits (8 credits of compulsory subjects and 10 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Architecture Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits		
				Compulsory	Compulsory Elective			
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more		2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1			
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1			
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1			
		Academic approach to SDGs - A	1・2		1			
		Academic approach to SDGs - B	1・2		1			
		Practical Approach to SDGs	1・2		1			
		Understanding diversity and Inclusion	1・2		1			
		Climate Change Adaptation and Mitigation	1・2		1			
		Innovation and Practice for Smart Society	1・2		1			
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more		
		Data Literacy in Medicine	1・2		1			
		Advanced Career Management	1・2		2			
		Stress Management	1・2		2			
		Information security	1・2		1			
		Long-term internship	1・2		2			
		Introduction to MOT	1・2		1			
		Entrepreneurship	1・2		1			
		Introduction to Informatics I	1・2		1			
		Introduction to Informatics II	1・2		1			
		Introduction to Basic ScienceResearcher	1・2		1			
		Career Developments in Semiconductor Industry	1・2		1			
		Career Management Course for International Students A	1・2		1			
		Career Management Course for International Students B	1・2		1			
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more		3 or more
		Exercises in International Academic Studies A	1・2		1			
		Exercises in International Academic Studies B	1・2		2			
	Sociality	MOT and Venture Business	1・2		1	2 or more		
		Technology Strategy for Management	1・2		1			
		Intellectual Property, Finance and Accounting	1・2		1			
		Technology Transfer	1・2		1			
		International Standardization for Rule Making	1・2		1			
		Business Creation Practicum	1・2		1			
		Introduction to Fieldwork Method and Practice	1・2		1			
		Internship	1・2		1			
		Data Visualization A	1・2		1			
		Data Visualization B	1・2		1			
		Principles of Environment A	1・2		1			
		Principles of Environment B	1・2		1			
		Chiral Knot Special Seminar I	1・2		2			
		CMOS Process Training	1・2		1			
		Modern Society and Semiconductor Technology	1・2		1			
Subjects Specialized for the Program	Core Subjects	Advanced Architectural Environment and Building Service	1		2	8 or more	18 or more	25 or more
		Advanced Architectural Project	1		2			
		Advanced Urban Environmental Planning	1		2			
		Advanced Design of Steel Structures	1		2			
		Advanced Reinforced Concrete Structures	1		2			
		Advanced Performance Design of Buildings	1		2			
		Dynamics of Building-Structure	1		2			
		Advanced Architectural Planning and Programing	1		2			
		Advanced Timber Structures	1		2			
		Advanced Human Environmental Engineering	1		2			
		Advanced Theory of Conservation of Historic Environment	1		2			
		Special Exercises on Architecture A	1	2		8		
		Special Exercises on Architecture B	1	2				
		Special Study on Architecture	1～2	4				
		Environmental & Architectural Design I	1・2		2			
		Environmental & Architectural Design II	1・2		1			
		Advanced Theory of Earthquake Engineering	1・2		2			
		Exercises in Loads on Buildings	1・2		1			
		Practice of Structural Design for Reinforced Concrete Structure	1・2		1			
		Practice of Structural Design for Steel Structures	1・2		1			

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits
			Compulsory	Compulsory Elective	
	Architectural Design Internship	1・2		4	
	Special Lecture on Architecture A	1・2		1	
	Special Lecture on Architecture B	1・2		1	
	Special Lecture on Architecture C	1・2		1	
	Special Lecture on Architecture D	1・2		1	
	Special Lecture on Architecture E	1・2		1	
	Subjects Specialized for Other Programs				2 or more

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits
- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits
- Subject Specialized for the Architecture Program: 18 or more credits (8 credits of compulsory subjects and 8 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.
- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Civil and Environmental Engineering Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program	Core Subjects	Geotechnical Engineering	1		2	8 or more	25 or more
		Advanced Structural Engineering	1		2		
		Advanced Structural Concrete	1		2		
		Environmental Fluid Mechanics	1		2		
		Advanced Environmental Coastal Engineering	1		2		
		Advanced Environmental Protection Engineering	1		2		
		Infrastructure and Regional Planning	1		2		
		Special Exercises on Civil and Environmental Engineering A	1	2		8	18 or more
		Special Exercises on Civil and Environmental Engineering B	1	2			
		Special Study on Civil and Environmental Engineering	1～2	4			
		Advanced Structural Materials	1・2		2		
		Advanced River Engineering	1・2		2		
		Advanced Soil Mechanics	1		2		
		Special Lecture on Civil and Environmental Engineering A	1・2		1		
		Special Lecture on Civil and Environmental Engineering B	1・2		1		
		Special Lecture on Civil and Environmental Engineering C	1・2		1		
		Special Lecture on Civil and Environmental Engineering D	1・2		1		
		Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits
- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits
- Subject Specialized for the Civil and Environmental Engineering Program: 18 or more credits (8 credits of compulsory subjects and 8 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.
- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.
- If you have completed the double degree program with National Central University (NCU), Taiwan, and have earned credits of subjects provided by the NCU Graduate School of Engineering and designated by the HU Graduate School of Advanced Science and Engineering, you can include them in credits of Subject Specialized for the Program. The subjects designated by the HU Graduate School of Advanced Science and Engineering shall be indicated separately.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1･2: Register regardless of your year

Informatics and Data Science Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Special Exercises on Informatics and Data Science A	1	2		8	25 or more
		Special Exercises on Informatics and Data Science B	1	2			
		Special Study on Informatics and Data Science	1～2	4			
		Advanced Parallel Architectures and Algorithms	1・2		2	10 or more	
		Embedded System	1・2		2		
		Database Engineering	1・2		2		
		Cryptography	1・2		2		
		Computational Complexity Theory	1・2		2		
		Mobile Computing	1・2		2		
		Applied Mechano-informatics	1・2		2		
		Dependable Computing	1・2		2		
		Artificial and Natural Intelligence	1・2		2		
		Information retrieval	1・2		2		
		Advanced Visual Information Processing	1・2		2		
		Image Analysis and Synthesis Technology	1・2		2		
		Human Computer Interaction	1・2		2		
		Advanced Software Engineering	1・2		2		
		Information Systems	1・2		2		
		Computational Statistics	1・2		2		

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Advanced Natural Language Processing	1・2		2		
	Data Management	1・2		2		
	Information Security	1・2		2		
	Formal Engineering Methods for Software Development	1・2		2		
	Applied Multivariate Analysis	1・2		2		
	Statistical Machine Learning	1・2		2		
	Advanced Computational Neurosciendce	1・2		2		
	Control of multi-agent systems	1・2		2		
	Data Science of Algorithmic Finance	1・2		2		
	AIOps Lab A	1・2		1		
	AIOps Lab B	1・2		1		
	AIOps Lab C	1・2		1		
	AIOps Lab D	1・2		1		
	Internship	1・2		2		
	Network Science and Graph Learning	1・2		2		
	Advanced Complex Systems Science	1・2		2		
	Bayesian inference	1・2		2		
	Advanced Biomedical Signal Processing	1・2		2		
	Multimodal Learning	1・2		2		
	Kansei Informatics	1・2		2		
	Advanced Information and Computational Science	1・2		2		
	Special Lecture on Informatics and Data Science A	1・2		1		
	Special Lecture on Informatics and Data Science B	1・2		1		
	Special Lecture on Informatics and Data Science C	1・2		1		
	Special Lecture on Informatics and Data Science D	1・2		1		
	Special Lecture on Informatics and Data Science E	1・2		1		
	Special Lecture on Informatics and Data Science F	1・2		1		
	Special Lecture on Informatics and Data Science G	1・2		1		
	Special Lecture on Informatics and Data Science H	1・2		1		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Informatics and Data Science Program: 18 or more credits (8 credits of compulsory subjects and 10 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Smart Innovation Program Master's Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio -nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Special Exercises on Smart Innovation A	1	2		8	25 or more
		Special Exercises on Smart Innovation B	1	2			
		Special Study on Smart Innovation	1～2	4			
		Introduction to Digital Manufacturing	1・2		2	10 or more	
		Introduction to Innovation	1・2		2		
		Advanced Model Based Development	1・2		2		
		Materials Simulation	1・2		2		
		Advanced Data-Driven Systems Design	1・2		2		
		Advanced Smart Sensing	1・2		2		
		Practice on Model-Based Systems Design I	1・2		1		
		Practice on Model-Based Systems Design II	1・2		1		
		Practice on Model-Based Systems Design III	1・2		1		
		Special Lecture on Materials Model-Based Research	1・2		2		
		Special Lecture on Materials Simulation	1・2		2		
		Special Lecture on Data-Driven Smart Systems	1・2		2		
		Special Lecture on Smart Inspection and Monitoring	1・2		2		
		Advaneced Digital Manufacturing Practice	1・2		2		
		Advanced Model-Based Development(MDB)	1・2		2		
		Organic Material Chemistry	1・2		2		
		Advanced Inorganic Materials Chemistry	1・2		2		

Subject Type	Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	Advanced Porous Material	1・2		2		
	Functional Dye Chemistry	1・2		2		
	Supramolecular Chemistry	1・2		2		
	Advanced Synthetic Polymer Chemistry	1・2		2		
	Hybrid Materials Chemistry	1・2		2		
	Advanced System Control	1・2		2		
	Advanced Robotics	1・2		2		
	Hyper Human Engineering	1・2		2		
	Advanced Cybernetics Engineering	1・2		2		
	Advanced Human Systems Augmentation	1・2		2		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Smart Innovation Program: 18 or more credits (8 credits of compulsory subjects and 10 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Quantum Matter Program Master's Course

Subject Type		Subjects	Eligible Class Year (Note)	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program		Advanced Study in Quantum Matter	1～2	4		4	25 or more
		Exercises in Basic Sciences of Matter A	1		2	Either 2	
		Exercises in Electronics A	1		2		
		Exercises in Basic Sciences of Matter B	1		2	Either 2	
		Exercises in Electronics B	1		2		
		Academic Presentation in Basic Sciences of Matter	1・2		2	Either 2	
		Academic Presentation in Electronics	1・2		2		
		Seminar on Basic Sciences of Matter A	1・2		2	8 or more	
		Seminar on Basic Sciences of Matter B	1・2		2		
		Seminar on Electronics A	1・2		2		
		Seminar on Electronics B	1・2		2		
		Internship	1・2		2		
		Electron Theory in Solids	1・2		2		
		Solid State Physics	1・2		2		
		Strongly Correlated Electron Physics A	1・2		2		
		Strongly Correlated Electron Physics B	1・2		2		
		Magnetism A	1・2		2		
		Magnetism B	1・2		2		
		Low Temperature Physics	1・2		2		
		Photon Physics	1・2		2		
		Beam Physics	1・2		2		
		Accelerator Physics	1・2		2		
		Physics of Quantum Elasticity	1・2		2		
		Physics and Chemistry for Developing Quantum Materials	1・2		2		
		Statistical Physics	1・2		2		
		Quantum Physics	1・2		2		
		Optics and photonics	1・2		2		
		Nanoscience	1・2		2		
		Quantum Optics	1・2		2		
		Plasmonics	1・2		2		
		Functional Materials for Hydrogen	1・2		2		
		Physics of Semiconductor Devices	1・2		2		
		Physics of Electron Devices	1・2		2		

Subject Type	Subjects	Eligible Class Year (Note)	No. of Credits		No. of Required Credits	
			Compulsory	Compulsory Elective		
	LSI Devices and Process Engineering	1・2		2		
	System LSI Design Engineering	1・2		2		
	Analog Integrated Circuits A	1・2		2		
	Analog Integrated Circuits B	1・2		2		
	Electromagnetism for RF and High-speed Circuit Design	1・2		2		
	Biomagnetics	1・2		2		
	Introduction of Semiconductor Memory Technology	1・2		2		
	LSI systems I	1・2		1		
	LSI systems II	1・2		1		
	Intelligent Sensing Systems	1・2		2		
	RF Measurement Engineering	1・2		2		
	Magnetism and Spintronics	1・2		1		
	AI & network communication systems	1・2		1		
	VLSI Technology I	1・2		2		
	Advanced Topics on Material Analysis and Basics of Plasma Processing for Nano Devices	1・2		2		
	Technology Analytics on Advanced LSIs	1・2		2		
	Special Lecture I on Integrated Green-niX	1・2		1		
	Special Lecture II on Integrated Green-niX	1・2		2		
	VLSI Layout Design	1・2		2		
	Functional Devices	1・2		2		
	VLSI Physical Design	1・2		2		
	Advanced Semiconductor Characterization Techniques	1・2		2		
	Advanced Wireline Interface Technologies	1・2		2		
	Fundamentals of RF and Microwave Measurement Engineering	1・2		2		
	Current Topics in Basic Sciences of Matter A	1・2		1		
	Current Topics in Basic Sciences of Matter B	1・2		1		
	Current Topics in Electronics A	1・2		1		
	Current Topics in Electronics B	1・2		1		
	Introduction to Physics and Material Science	1・2		2		
	Introduction of the Electronics	1・2		2		
	Special Lectures of Professional Education	1・2		2		
	Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subjects Specialized for the Quantum Matter Program: 18 or more credits
- Compulsory subject: 4 credits
- Compulsory elective subject - Exercises in Basic Sciences of Matter A or Exercises in Electronics A: 2 credits
- Compulsory elective subject - Exercises in Basic Sciences of Matter B or Exercises in Electronics B: 2 credits
- Compulsory elective subject - Academic Presentation in Basic Sciences of Matter or Academic Presentation in Electronics: 2 credits
- Compulsory elective subjects other than the above: 8 or more credits
- For Seminar on Basic Sciences of Matter A/B and Seminar on Electronics A/B, you can include up to four credits of these subjects in the number of credits necessary for completing your course.

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Transdisciplinary Science and Engineering Program Master's Course

Subject Type		Subjects	Eligible Class Year (Note)	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	World Peace and HIROSHIMA	1・2		1	1 or more	2 or more
		Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2		1		
		Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2		1		
		Japanese Experience of Human Development-Culture, Education, and Health	1・2		1		
		Academic approach to SDGs - A	1・2		1		
		Academic approach to SDGs - B	1・2		1		
		Practical Approach to SDGs	1・2		1		
		Understanding diversity and Inclusion	1・2		1		
		Climate Change Adaptation and Mitigation	1・2		1		
		Innovation and Practice for Smart Society	1・2		1		
	Career Development and Data Literacy Subjects	Data Literacy	1・2		1	1 or more	
		Data Literacy in Medicine	1・2		1		
		Advanced Career Management	1・2		2		
		Stress Management	1・2		2		
		Information security	1・2		1		
		Long-term internship	1・2		2		
		Introduction to MOT	1・2		1		
		Entrepreneurship	1・2		1		
		Introduction to Informatics I	1・2		1		
		Introduction to Informatics II	1・2		1		
		Introduction to Basic ScienceResearcher	1・2		1		
		Career Developments in Semiconductor Industry	1・2		1		
		Career Management Course for International Students A	1・2		1		
		Career Management Course for International Students B	1・2		1		
Common Graduate School Subjects	Internatio-nalism	Academic Writing I	1		1	1 or more	3 or more
		Exercises in International Academic Studies A	1・2		1		
		Exercises in International Academic Studies B	1・2		2		
	Sociality	MOT and Venture Business	1・2		1	2 or more	
		Technology Strategy for Management	1・2		1		
		Intellectual Property, Finance and Accounting	1・2		1		
		Technology Transfer	1・2		1		
		International Standardization for Rule Making	1・2		1		
		Business Creation Practicum	1・2		1		
		Introduction to Fieldwork Method and Practice	1・2		1		
		Internship	1・2		1		
		Data Visualization A	1・2		1		
		Data Visualization B	1・2		1		
		Principles of Environment A	1・2		1		
		Principles of Environment B	1・2		1		
		Chiral Knot Special Seminar I	1・2		2		
		CMOS Process Training	1・2		1		
		Modern Society and Semiconductor Technology	1・2		1		
Subjects Specialized for the Program	Common	Transdisciplinary Science and Engineering Program Common Subjects 1 (Smart Development)	1・2		2	2 or more	25 or more
		Transdisciplinary Science and Engineering Program Common Subjects 2 (Green Development)	1・2		2		
		Transdisciplinary Science and Engineering Program Common Subjects 3 (Resilient Development)	1・2		2		
	Compulsory	Special Exercises of Advanced Science and Engineering Transdisciplinary Science and Engineering A	1	2		8	
		Special Exercises of Advanced Science and Engineering Transdisciplinary Science and Engineering B	1	2			
		Special Study of Advanced Science and Engineering Transdisciplinary Science and Engineering	1～2	4			
	Compulsory Elective Subjects	Earth Materials	1・2		2	6 or more	
		Dynamics of Earth Surface Material Cycle	1・2		2		
		Global Fluid Dynamics and Natural Structure Formation	1・2		2		
		Fundamentals of Complex Matter	1・2		2		
		Complex Materials Science	1・2		2		
		Structure of Complex Matter	1・2		2		
		Quantum Theory of Correlated Matter	1・2		2		
		Correlated Materials Science	1・2		2		
		Spectroscopies of Correlated Matter	1・2		2		
		Information Systems	1・2		2		
		Information Security	1・2		2		
		Computational Science	1・2		2		
		Computational Statistics	1・2		2		
		Media Communication	1・2		2		
		Sustainability Materials Science	1・2		2		
		Water Security	1・2		1		
		Seminar in Integrated Arts and Sciences	1・2		2		
		Environmental Management	1・2		2		
		Developing Designing Ability	1・2		2		
		Practical Seminar on International Cooperation Project	1・2		2		
		Transportation Engineering	1・2		2		
		Transportation Planning	1・2		2		
		Fundamentals of Survey Methodology	1・2		2		

Subject Type		Subjects	Eligible Class Year (Note)	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Subjects Specialized for the Program	Compulsory Elective Subjects	Disaster Risk Management	1・2		2		
		Sustainable Architecture A	1・2		2		
		Sustainable Architecture B	1・2		2		
		Energy Science and Technology	1・2		2		
		Numerical Environmental Impact Assessment Ⅰ	1・2		2		
		Numerical Environmental Impact Assessment Ⅱ	1・2		2		
		Geographic Information System Technology	1・2		2		
		Botany Resources for the Future	1・2		2		
		Environmental Monitoring	1・2		2		
		Biomass Energy Technology	1・2		2		
		Ecosystem Conservation and Management Science	1・2		2		
		Management and Conservation of Ecosystems	1・2		2		
		Landscape Ecology	1・2		2		
		Environmental Health Science	1・2		2		
		Urban Environmental Science	1・2		2		
		Environmental Epidemiology	1・2		2		
		Data Analytics for Sustainable Development	1・2		2		
		Smart Urban Development	1・2		2		
		Agent-based Transport Simulation	1・2		2		
		Advanced Environmental Microbiology and Infectious Diseases	1・2		2		
		Microbial Genetics, Genomics, and Bioinformatics	1・2		2		
		Introduction to Soil and Water Conservation	1・2		2		
		Special Seminar for Linkage Program Ⅰ	1・2		2		
		Special Seminar for Linkage Program Ⅱ	1・2		2		
		Joint Exercises in Advanced Science and Engineering Transdisciplinary Science and Engineering	1～2		2		
		Subjects Specialized for Other Programs				2 or more	

【Registration Method and Completion Requirements】

To complete your master's course, you need to earn 30 or more credits based on the following requirements, receive necessary research guidance, and pass the master's thesis screening and the final examination or the qualifying examination for research in the doctoral course.

Necessary No. of Credits for Completing Your Course: 30 or more credits

(1) Common Graduate Subjects : 2 or more credits

- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Graduate School Subjects : 3 or more credits

- Internationalism: 1 or more credits
- Sociality: 2 or more credits

If you have earned credits for the courses offered through the credit transfer program with partner universities of the Value-Integrated Semiconductor Talent Acceleration (中四国VISTA), you can include them in "Sociality" category for the credits of Common Graduate School.

(3) Subject Specialized for the Program: 25 or more credits

- Subject Specialized for the Transdisciplinary Science and Engineering Program : 16 or more credits (2 or more credits of common program subjects and 8 credits of compulsory subjects and 6 or more credits of compulsory elective subjects)

If you have earned credits for the Early Course of Hirosihma University's Graduate School for Undergraduate students, you can include them in the credits of Subjects Specialized for the Program, up to a maximum of 15 credits.

- Subjects Specialized for Other Programs: 2 or more credits

If you have earned credits of subjects specialized for other divisions or graduate schools after obtaining approval from your supervisor/subadvisor, you can include them in the credits of Subjects Specialized for Other Programs.

(Note) Eligible Class Year

1: Register in the first year; 2: Register in the second year; 1～2: Register in the first and second years; and 1・2: Register regardless of your year

Joint International Master's Programme in Sustainable Development (Hiroshima University and Leipzig University)

Course category				Course Name	Year taken	University (HU/UG)	Credit (Required / elective)
Basic Course	Courses offerd by Hiroshima University	Common Graduate Course	Sustainable Development Course	World Peace and HIROSHIMA	1・2	HU	1
				Considering "Peace" through Atomic Bomb Literature and Arts-Based on Experience of AtomicBomb Survivors	1・2	HU	1
				Japanese Experience of Social Development- Economy, Infrastructure, and Peace	1・2	HU	1
				Japanese Experience of Human Development-Culture, Education, and Health	1・2	HU	1
				Understanding Diversity and Inclusion	1・2	HU	1
				Climate Change Adaptation and Mitigation	1・2	HU	1
				Innovation and Practice for Smart Society	1・2	HU	1
			Career Development and Data Literacy Course	Data Literacy	1・2	HU	1
				Data Literacy in Medicine	1・2	HU	1
				Advanced Career Management	1・2	HU	2
				Stress Management	1・2	HU	2
				Information security	1・2	HU	1
				Introduction to MOT	1・2	HU	1
				Entrepreneurship	1・2	HU	1
				Career Management Course for International Students A	1・2	HU	1
				Career Management Course for International Students B	1・2	HU	1
				Subtotal: 16 subjects	—		18
		Common Graduate School Course	Sociality	MOT and Venture Business	1・2	HU	1
				Technology Transfer	1・2	HU	1
				PBL for Technology Transfer	1・2	HU	1
				Idea Mining Workshop	1・2	HU	1
				Business Creation Practicum	1・2	HU	1
				Data Visualization A	1・2	HU	1
				Data Visualization B	1・2	HU	1
				Principles of Environment A	1・2	HU	1
				Principles of Environment B	1・2	HU	1
				Chiral Knot Special Seminar I	1・2	HU	2
				Subtotal: 10 subjects	—		11
		Foundation Course		Research Method	1	HU	2
				Introduction to Sustainable Development	1	HU	2
				Fundamentals of Survey Methodology	1・2	HU	2
				Geographic Information System Technology	1・2	HU	2
				Disaster Risk Management	1・2	HU	2
				Data Analytics for Sustainable Development	1・2	HU	2
				Subtotal: 6 subjects	—		12
	Courses offerd by Leipzig University			Basics in Economic Sciences	1	LU	5
				Basics in Social Sciences - International Studies	1	LU	5
				Basics in Sustainable Development	1	LU	5
				Subtotal: 3 subjects	—		15
Specialized Course	Courses offerd by Hiroshima University	Specialization Course		Environmental Management	1・2	HU	2
				Transportation Engineering	1・2	HU	2
				Transportation Planning	1・2	HU	2
				Sustainable Architecture A	1・2	HU	2
				Sustainable Architecture B	1・2	HU	2
				Energy Science and Technology	1・2	HU	2
				Numerical Environmental Impact Assessment Ⅰ	1・2	HU	2
				Numerical Environmental Impact Assessment Ⅱ	1・2	HU	2
				Botany Resources for the Future	1・2	HU	2
				Environmental Monitoring	1・2	HU	2
				Biomass Energy Technology	1・2	HU	2
				Ecosystem Conservation and Management Science	1・2	HU	2
				Management and Conservation of Ecosystems	1・2	HU	2
				Environmental Health Science	1・2	HU	2
				Urban Environmental Science	1・2	HU	2
				Environmental Epidemiology	1・2	HU	2
				Smart Urban Development	1・2	HU	2
				Agent-based Transport Simulation	1・2	HU	2
				Seminar A	1	HU	2
				Seminar B	1	HU	2
				Subtotal: 20 subjects	—		40
		Integration Course		Fieldwork	2	HU	2
				Global Internship	2	HU	2
				Developing Designing Ability	1・2	HU	2
				Practical Seminar on International Cooperation Project	2	HU	2
				Young Professionals Preparing for Careers in International Organizations A	2	HU	2
				Young Professionals Preparing for Careers in International Organizations B	2	HU	2
				Seminar C	2	HU	2
				Subtotal: 7 subjects	—		14
	Courses offerd by Leipzig University	Specialization Course		Energy Engineering and Management	1	LU	5
				Water Resources Management	1	LU	5
				Sustainable Energy Economics	1	LU	5
				Landscape Management in European Context	1	LU	2.5
				Land Management in Urban Context	1	LU	2.5
				Environmental and Biodiversity Economics	1	LU	5
				Climate Economics	1	LU	5
				Subtotal: 7 subjects	—		30
		Integration Course		Inter-or Transdisciplinary Case Study	2	LU	7.5
				Project Management and Communication Skills	2	LU	2.5
				Life cycle Assessment and Sustainability Assessment of Bioeconomy	2	LU	2.5
				Sustainability Assessment of the Energiewende	2	LU	2.5
				Modelling in Resources Management	2	LU	5
				Entrepreneurship Management	2	LU	5
				Natural Resource Use and Conservation Economics	2	LU	5
				Socio-economic Aspects of Urban Development	2	LU	5
				Current research in Water Resources Management	2	LU	2.5
				Selected topics of transformation Research	2	LU	2.5
				Big Data and Smart Cities	2	LU	5
				Sustainable Finance	2	LU	2.5
				Subtotal: 12 subjects	—		47.5
Master Thesis				Master Thesis (Hiroshima University)	1～2	HU	15
				Master's Thesis (Leipzig University)	1～2	LU	15
				Subtotal: 2 subjects	—		30
Total: 83 subjects					—		217.5

* The number indicated in the "Year taken" column means as follows.
1 : Course should be taken in the first year, 2: Course should be taken in the second year, 1~2: Course should be taken from the first to second year, 1・2: Course may be taken any year

1. Completion requirements
・Acquisition of at least 60 credits in total (at least 30 credits from Hiroshima University and at least 30 credits(60 ECTS*) from Leizpig University) as specified in Section 2 or Section 3 below
・Receipt of research guidance
・Passing the master's thesis evaluation and final examination

2. Required credits in each course category for students who chose Hiroshima University as their home (entrance) university

【Courses offered by Hiroshima University】
(1) Basic Course: 12 credits or more
・Common Graduate Course: 1 credit or more from Sustainable Development Course, 1 credit or more from Career Development and Data Literacy Course
・Common Graduate School Course: 2 credits or more from Sociality
・Foundation Course: 8 credits or more (NB. The course "Introduction to Sustainable Development" is required.)
(2) Specialized Course: 2 credits or more (NB. "Seminar A" is required.)
(3) Courses offered by the Graduate Schools of Hiroshima University: 1 credit or more
(4) Master Thesis: 15 credits ("Master Thesis(Hiroshima University)")

【Courses offered by Leipzig University】
(1) Specialized Course: 30 credits or more
・Specialization Course: 15 credits or more
・Integration Course: 15 credits or more (NB. The following courses are required: "Inter-or Transdisciplinary Case Study"; and "Project Management and Communication Skills")

3. Required credits in each course category for students who chose Leipzig University as their home (entrance) university

【Courses offered by Leipzig University】
(1) Basic Course: 15 credits
(2) Master Thesis: 15 credits ("Master's Thesis (Leipzig University)")

【Courses offered by Hiroshima University】
(1) Specialized Course: 22 credits or more
・Specialization Course: 15 credits or more (NB. "Seminar B" is required.)
・Integration Course: 7 credits or more (NB. "Seminar C" is required.)
(2) Courses offered by the Graduate Schools of Hiroshima University: 8 credits or more

*1 credit of HU is equivalent to 2 ECTS of LU.
*The grading system at HU is based on a 5-point scale of "S", "A", "B", "C" and "D", and "C" and above "C" are successful. On the other hand, LU will be graded in the same way on a scale of "Sehr gut", "Gut", "Befriedigend", "Ausreichend" and "Mangelhaft", and "Ausreichend" and above "Ausreichend" are the result of a passing grade. The two universities have agreed to make grading interchangeable (as shown in the table below), thus establishing a system that enables both universities to evaluate grades on the same basis.

Table of interchangeable grading system

Definition	LU	HU
Outstanding performance with only minor errors	1,0 - 1,5 (included) Sehr gut	S Excellent
Above the average standard but with some errors	1,6 - 2,5 (included) Gut	A Superior
Generally sound work with a number of notable errors	2,6 - 3,5 (included) Befriedigend	B Good
Performance meets the minimum criteria	3,6 - 4,0 (included) Ausreichend	C Fair
Considerable further work is required, failed	>4,0 Mangelhaft	D Poor

7. Common Graduate Courses (Master's Course)

Graduate Schools of Hiroshima University offer the graduate students the Common Graduate Courses which are designed to develop their broad perspective, interest in society, and awareness of problems, and to deepen their consideration of how each specialized field can contribute as "a science leading to sustainable development".

Additionally, the courses help them grasp the latest developments in the social system and acquire the basic knowledge to play an active part in modern society.

All graduate students are required to take at least one (1) credit from each of subject types, "Sustainable Development Courses" and "Career Development and Data Literacy Courses".

〈Subject Type and Educational Goals〉

◆Sustainable Development Courses

To understand the Sustainable Development Goals (SDGs), which are agreed internationally, to acquire the ability to create sciences which lead to sustainable development, and to solve various challenges in society.

◆Career Development and Data Literacy Courses

To learn about the development of current social systems, to gain knowledge necessary for the future era, to specifically tackle the challenges of modern society, and to acquire the ability to use the knowledge and skills necessary in the future era.

< Course List (AY2026) >

Subject Type	Subjects	No. of Credits	Subjects available in English
Sustainable Development Courses	World Peace and HIROSHIMA	1	◎
	Japanese Experience of Social Development - Economy, Infrastructure, and Peace	1	◎
	Japanese Experience of Human Development - Culture, Education, and Health	1	◎
	Academic approach to SDGs - A	1	
	Academic approach to SDGs - B	1	
	Understanding diversity and Inclusion	1	
	Practical Approach to SDGs	1	
	Considering "Peace" through Atomic Bomb Literature and Arts -Based on Experience of Atomic Bomb Survivors	1	◎
	Climate Change Adaptation and Mitigation	1	◎
	Innovation and Practice for Smart Society	1	◎
Career Development and Data Literacy Courses	Data Literacy	1	◎
	Data Literacy in Medicine	1	○
	Stress Management	2	
	Introduction to MOT	1	◎
	Information security	1	○
	Entrepreneurship	1	
	Introduction to Informatics I	1	
	Introduction to Informatics II	1	
	Introduction to Basic Science Researcher	1	
	Advanced Career Management	2	
	Career Management Course for International Students A	1	
	Career Management Course for International Students B	1	
	Career Developments in Semiconductor Industry	1	
	Long-term internship	2	○

Note:
"◎" indicates that at least one class is offered in English (E).
"○" indicates that at least one class is offered in both Japanese and English (B), but no class is offered in English (E).
No mark indicates that all classes are offered in Japanese (J).

8. Common Subjects for the Graduate School (Master's Courses)

At the Graduate School of Advanced Science and Engineering, we strive to foster human resources who are equipped with understanding of and advanced, high-level specialty in an extensive field, covering both the basics and application, in science, engineering and information science, as well as in their related research areas; and who can contribute to solving social problems by cooperating flexibly with those from other fields to achieve integration of understanding with their own specialized area. To this end, we systematically provide not only specialized subjects for each diploma program but also the Common Subjects for the Graduate School, listed below, in order to create "science for sustainable development," stimulate students' motivation for making social contribution through such creation, and develop their cross-disciplinary ability, communication skills necessary for cooperation, and ability to apply their expertise to society.

Please check the class contents, requirements, evaluation, registration, and credits, including how to earn three or more credits (one or more credits of a subject in the category "Internationalism" and two or more credits of subjects in the category "Sociality").

Subject List

Subject Type	Subjects [Credits]	Class Contents and Class Requirements, etc.
Internationalism	Academic Writing I [1 credit]	- Class Contents - In this class, you will strive to obtain the basic academic writing skills necessary to write a summary for a presentation that you will give at an international conference and an English thesis. For the summary of a presentation at an international conference, you will learn about what to do to ensure that readers can understand your summary easily, for example, clarifying the purposes and results of your research. In addition, you will also learn the essentials regarding how to prepare a poster used for a poster presentation and how to compose an oral presentation. You will also learn about the typical structure of an English thesis and how to compose an English thesis, with the focus on how to develop your discussion and how to write your introduction, conclusion and experiment section. - Class Requirements, etc. - ① For an academic thesis to be contributed or presented, prepare a plan together with your supervisor and receive guidance regarding how to write an English thesis. You do not need to register through My Momiji for taking this class. ② A credit will be granted based on the report from your supervisor regarding the implementation of the class.
	Exercises in International Academic Studies A [1 credit]	- Class Contents- In this seminar, you will prepare for giving a presentation in a foreign language at an international symposium or conference (for example, by obtaining the basic skills and practicing giving a presentation in English). In addition, you will report on the contents and results of the presentation that you made in a foreign language at an international symposium or conference. The report will be objectively assessed by the faculty member in charge of this seminar, your supervisor and subadvisors, etc. If you have accomplished the level of being able to contribute to the global society, your performance will be evaluated based on the accomplishment level. - Class Requirements, etc. - ① Give a presentation at an international conference or other event in consultation with your supervisor. You do not need to register through My Momiji for taking this class. The standard time of your work for this class is set as 15 or more hours, but please engage in the work without interrupting your regular classes. ② After completing your activity, submit an Application for Recognition of Credits, a report stating your conference schedule, the conference organizer, the event details and other necessary information, and reference materials, such as a conference summary, to your supervisor. ③ Your performance will be evaluated based on the level of your accomplishment in terms of the purposes of your academic activities and research and on the results that you have generated before a credit is granted.

	Exercises in International Academic Studies B [2 credits]	- Class Contents- In this seminar, to enhance your global perspective and global communication skills, you will engage in an academic activity abroad or conduct research jointly with foreign researchers. You will participate in a short-term academic training program organized by an overseas academic agency or private company or conduct joint research in a foreign language with researchers from abroad, and then you will report such activity's details and results. The report will be objectively assessed by the faculty member in charge of this seminar, your supervisor and subadvisors, etc. If you have accomplished the level of being able to contribute to the global society, your performance will be evaluated based on the accomplishment level. - Class Requirements, etc. - ① Conduct international joint research or other activity in consultation with your supervisor. You do not need to register through My Momiji for taking this class. The standard time of your work for this class is set as 30 or more hours, but please engage in the work without interrupting your regular classes. ② After completing your activity, submit an Application for Recognition of Credits and a report stating your academic activity/research schedule, the relevant organization, the details of your work and other necessary information to your supervisor. ③ Your performance will be evaluated based on the level of your accomplishment in terms of the purposes of your academic activities and research and on the results that you have generated before a credit is granted.
Sociality	MOT and Venture Business [1 credit]	- Class Contents- The target of this class is to systematically learn about technology management, which constitutes the basics of MOT and venture business. To help you understand the essentials of technology management, the faculty member in charge of the class will show you many examples and provide systematic and easy-to-understand explanations of not only the efficiency and effectiveness of technology management but also of the history of technology management, corporate structures, BEP analysis, ethics for engineers, quality control, inventory management, organizational structures, technology strategies, motivation, leadership, business plans, venture businesses, and other various core issues. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Technology Strategy for Management [1 credit]	- Class Contents- Technology strategies are divided into two categories: strategies for technology and IT strategies for using information technology. In this lecture, you will purse the essentials of strategies with a focus on the relevance of strategies for technology, namely those for developing and using technology. At the same time, you will see many successful cases of technology strategies and learn about not only the differences between general management strategies and technology strategies but also the relationship between technology and management, technology and ethics, how to establish technology strategies, business environment analysis, tools for establishing strategies, and how to use technology for new business plans and corporate management. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Intellectual Property, Finance and Accounting [1 credit]	- Class Contents- The target of this class is to systematically obtain knowledge of intellectual property, finance and accounting, which constitute the basics of technology management. For intellectual property, you will listen to explanations on intellectual property, which is associated with both engineering and corporate management, the Patent Act, patent application specifications, the Design Act, the Trademarks Act, the Copyright Act, patent lawsuit cases, etc., while working on a practical exercise and presentation. For finance and accounting, you will strive to obtain not only the basic knowledge of corporate accounting but also the knowledge of B/S, P/L and cashflow required of corporate top and senior management when representing their corporate management results. You will also aim to familiarize yourself with the funding flow in financial economics and how to operate and raise funding.

		- Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Technology Transfer [1 credit]	- Class Contents- The target of this class is to systematically learn about the basics of technology transfer, which underpins technology management. By exploring the reality of technology transfer seen from the perspectives of both those who transfer their technology and those who receive it, you will learn about what is actually done for technology transfer. You will also deepen your knowledge through explanations of basic issues, such as the fundamental theory of overseas direct investment, management resources, patents, entrepreneurship, and strategies for localization. The class will include case studies of Japanese companies in the fields of shipbuilding and printing. You will learn about factors behind successful technology transfer by listening to detailed explanations of, for example, the use of patents as a management resource, influence of exchange rates, a training system, and influence of technology marketing and organization design. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	International Standardiza-tion for Rule Making [1 credit]	- Class Contents- The economic and social activities today are carried out in a set environment established in compliance with rules (i.e. “voluntary” rules, such as standards, and “compulsory” rules, such as regulations). However, almost anyone can stand in a leading position in terms of the establishment of voluntary rules, such as standards, and this means that no private companies can survive in the competition if they do not work actively on establishing rules. In this class, you will learn about international standardization issues based on case studies and about how to address them. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Business Creation Practicum [1 credit]	- Class Contents- The progress in the development of information technology (IT) is entailed by intensified global competition. Now that a wide variety of barriers to entry into the market have been removed, it has become common for small venture businesses to quickly drive large companies out of the market. In this environment, Japanese companies, despite their high-level technology development capability, have difficulty in pacing their technology potentials in practical use for business purposes, and this is a great problem. In this seminar, students, divided into groups, will conceive business ideas from the perspective of technology, select promising research themes that they can find from around themselves, consider how to create new value, and conduct an inspection through interviews with customers. By doing so, the students will learn about the differences between product development and customer development and obtain the basics of the business creation process. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Introduction to Fieldwork Method and Practice [1 credit]	- Class Contents- Have you ever felt “it’s somewhat vague” during your “journey” of working on a new problem or trying to find some solution? Have you ever experienced uncertainty about the future? In such a case, you are in the “silo” and thinking about this and that in a “room without any windows showing outside views.” In this case, you might be able to obtain some hint by shaking your own fixed ideas, fully using your five senses, and actually “strolling, watching, and listening” in your “field.” This approach, called “fieldwork,” is renowned as an effective research method. In this class, you will learn about and try the method of fieldwork, developed in the area of cultural anthropology and used in many academic disciplines. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Internship [1 credit]	- Class Contents- Today, when the global competition is intensifying, it is necessary for human resources who underpin the future of business society not only to be able to engage in logical discussions, have a full proficiency in English, and boast specialized

		knowledge but also to be equipped with the design skills in the fields of manufacturing and service development and to have a full command of the skills. In this class, you will actually work at a private company, an official agency, etc. in Japan or abroad, thereby striving to obtain skills which you can use for practical purposes and enhance your communication skills. After your internship program, you will deliver a report on the results of your internship at a reporting session, which will be also attended by other students. Your performance in this class will be comprehensively evaluated based on an evaluation of your report and an evaluation from your internship organization. - Class Requirements, etc. - ① Conduct an internship in consultation with your supervisor. You do not need to register through My Momiji for taking this class. The standard time of your work for this class is set as two or more weeks, but please engage in the work without interrupting your regular classes. ② After completing your activity, submit the following documents to your supervisor: an Application for Recognition of Credits; a report stating your internship schedule, place, organization, details and other necessary information; and an Internship Receiving and Completion Certificate prepared by your internship organization. ③ Deliver a report at the reporting session organized for your diploma program. ④ Your performance will be evaluated based on the details of your presentation at the reporting session, your discussion details, the level of your accomplishment in terms of the purposes of your academic activities and research, and on the results that you have generated before a credit is granted.
	Data Visualization A [1 credit]	- Class Contents- This class will handle how to visualize social data, from the concept to an implementation method using computers. The class will begin by providing you with a lecture on the concept and construction method for basic statistics so that you are able to understand the features of data intuitively. At the same time, you will learn about the implementation method by actually using the free statistic software product R. With the growth of the amount of data to be handled, this method is extensively recognized as a truly effective means for visualizing the features of data that cannot be fully measured with conventional statistics, such as average and dispersion. The accomplishment targets are (1) to understand the construction method for describing data, along with the basic concept of statistics; and (2) to become able to actually make a construction using R. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Data Visualization B [1 credit]	- Class Contents- This class will handle how to visualize social data, from the concept to an implementation method using computers. The class will begin by providing you with a lecture on a prediction method using data and a method of causal inference, and then it will explore how to visualize the data. In addition, you will also learn about how to handle not only numerical data but also text data. At the same time, you will learn about the implementation method by actually using the free statistic software product R. The accomplishment targets are (1) to understand the basic concepts of prediction and causal inference; (2) to understand the method of visualizing results using R; and (3) to understand the method of visualizing text data. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Principles of Environment A [1 credit]	- Class Contents- By understanding what underlies the present environmental problems, you will strive to identify factors behind the environmental problems and analyze the relationships between such factors. While doing so, you will also aim to consolidate your own intellectual structure and obtain the ability to act from a bird's-eye view so that you can handle the environmental problems today, ranging from those that are already explicit and serious to those that are tacit but might become serious in the future. - Class Requirements, etc. -

		You need to register through My Momiji for taking this class.
	Principles of Environment B [1 credit]	- Class Contents- The major environmental problems which are occurring today and which will affect the future are about a sustainable society. These problems are tacit but might become serious in the future. In this class, you will focus on methods for setting and accomplishing the necessary targets in the fields of individuals, policies, economics, society and technology in order to solve the problems mentioned above, and you will learn about the basics regarding how to ensure that such methods are applicable to any fields. - Class Requirements, etc.- You need to register through My Momiji for taking this class.
	Chiral Knot Special Seminar I [2 credits]	- Class Contents- Researchers from all over the world related to the International Institute for Sustainability with Knotted Chiral Meta Matter (WPI-SKCM^2) will conduct seminars on their respective fields of expertise on a regular basis to cultivate students with a wide range of knowledge and perspectives. - Class Requirements, etc.- ① Check the schedule and other details of the WPI-SKCM^2 Seminars in advance on the WPI-SKCM^2 website. ② Download and print out the "Application for Credit Approval Form" attached to the syllabus. ③ Bring the form to the seminar venue you wish to attend. After the seminar, obtain a confirmation stamp from the administrative staff. *Note: Registration via My Momiji is not required.* ④ After attending 15 WPI-SKCM^2 seminars, obtain an approval stamp or signature from your principal supervisor on the form and submit it to the Support Office for the fields of Science (in charge of WPI-SKCM^2). ⑤ Credits will be granted at the end of the semester in which the form is submitted.
	CMOS Process Training [1 credit]	- Class Contents- Semiconductors, which underpin modern society, are manufactured in special environments called clean rooms where dust is reduced to the absolute minimum. This is to minimize defects when massively integrating extremely fine transistors. The goal is to understand the manufacturing process of CMOS transistors, which form the basis of cutting-edge technology. Specifically, we will learn what physical phenomena are utilized in each process and what steps are performed for what purposes. Please attend all eight lectures. - Class Requirements, etc.- You need to register through My Momiji for taking this class.
	Modern Society and Semiconductor Technology [1 credit]	- Class Contents- The cutting-edge technologies underpinning modern society rely on the semiconductor supply chain. This is an industry where diverse advanced technologies converge. Within this ecosystem, expertise from all fields is leveraged, demanding a collective of diverse talent. The goal is to learn about engagement with the semiconductor industry from a technical perspective, while maintaining one's own specialized expertise as a foundation. Please attend at least eight of the offered lectures. - Class Requirements, etc.- You need to register through My Momiji for taking this class.

単位認定申請書
Application for Recognition of Credits

年　　月　　日
Date: (Year)　(Month)　(Day)

先進理工系科学研究科長　　殿
To: The Dean of the Graduate School of Advanced Science and Engineering

プログラム
Program
学生番号
Student Number
氏　　名
Name

認定科目の単位等の認定を受けたいので，報告書等を添付の上，申請します。
I hereby apply for the recognition of the credits for designated courses, with reports or other required documents attached hereto.

該当科目に○ Put a circle in the appropriate box.	認定科目 Course	備　　考 Remarks
	海外学術活動演習 A Exercises in International Academic Studies A	博士課程前期 Master's Course
	海外学術活動演習 B Exercises in International Academic Studies B	博士課程前期 Master's Course
	インターンシップ Internship	博士課程前期 Master's Course
	海外学術研究 Academic research overseas	博士課程後期 Doctoral Course
	自然科学系長期インターンシップ Long-term internship	博士課程後期 Doctoral Course

主指導教員氏名 Name of Academic Supervisor			
主指導教員評価 Evaluation by Academic Supervisor	秀　優　良　可 Excellent, Very Good, Good, Fair	学務委員会認定 Certification of Academic Affairs Committee	

海外学術活動演習 A 報告書
Report of Exercises in International Academic Studies A

提出日　　年　　月　　日
Date: Year　　Month　　day

学生番号 Student ID		氏名 Name	
プログラム Program			
学会/ジャナーナル名 Name of Conference/ Journal			
発表形式 Presentation style	・Oral presentation　・Poster presentation　・Journal paper		
タイトル Theme			
共著者名 study co-author			
開催場所/掲載誌 Place/ Name of Publication		主催者/巻・号・頁 Organizer/ Volume・No.・pp	
開催期間/発行年月日 Period/Date of issue	From ____/____/____ (yyyy/mm/dd)　To ____/____/____ (yyyy/mm/dd)		
発表の概要 Summary			
今後の研究課題Future study			
主指導教員所見Comments by Academic Supervisor 主指導教員　氏名			

海外学術活動演習 B 報告書
Report of Exercises in International Academic Studies B

提出日　　年　　月　　日
Date: Year　　Month　　day

学生番号 Student ID		氏名 Name	
プログラム Program			
共同研究機関 Collaborative investigation organization			
共同研究期間 Period	From _____/____ / ____ (yyyy / mm / dd)　To _____/____ /____ (yyyy / mm / dd)		
研究テーマ Theme			

共同研究内容の概要 Summary

今後の研究課題Future study

主指導教員所見Comments by Academic Supervisor

主指導教員　氏名

インターンシップ報告書
Report of Internship

提出日　　年　　月　　日
Date: Year　　Month　　day

学生番号 Student ID		氏名 Name	
プログラム Program			
実習先企業等 Institution			
実習期間 Period	From ____/____/____ To ____/____/____ yyyy / mm / dd　　yyyy / mm / dd		
実習テーマ Theme			

テーマの達成度，得られた成果等
Achievement level of theme, results obtained, etc

今後の課題Future study

主指導教員所見Comments by Academic Supervisor

主指導教員　氏名

Date　　年　　月　　日
yyyy　　mm　　dd

広島大学大学院先進理工系科学研究科長　宛
To Dean of Graduate School of Advanced Science and Engineering, Hiroshima University

インターンシップ　受入・修了証明書
Certificate of Acceptance and Completion of Intership

下記のとおり受け入れ，修了したことを証明します。
We certify that we accepted the following person and he/she completed our international cooperative research.

記

受入学生氏名　　：　　男 Male ・ 女 Female
Name of Student

生 年 月 日：　　年　　月　　日　生まれ
Date of Birth　yyyy　　mm　　dd

受入条件等 Acceptance Conditions	実習期間 Term	年　月　日 ～　年　月　日 From: yyyy mm dd　To: yyyy mm dd
	実習テーマ Research Theme	
	交通費等 Transportation Expenses	大学（または学生）の自己負担 Own Expense
	傷害・賠償 責任保険等 Insurances	「学生教育研究災害傷害保険」および「学研災付帯賠償責任保険」に加入。（日本国外で実施する場合は，「海外旅行傷害保険」にも加入。） To buy Personal Accident Insurance (PAS) for Students Pursuing Education and Research and Liability insurance coupled with PAS. In case of conducting outside Japan, students must buy “University contracted Travel Insurance” additionally.

住　　所　Address

所属機関　Institution

所 属 長　Head of Institution　　印

9. Joint Seminars (Joint Exercises in Advanced Science and Engineering Transdisciplinary Science and Engineering) (Master's Courses)

At the Graduate School of Advanced Science and Engineering, the Graduate School of Integrated Sciences for Life and other HU STEM graduate schools, we ensure that various events organized by each diploma program, such as academic lecture meetings, international symposiums and seminars, are available extensively for researchers, whether they are HU members or not. Generally called "joint seminars," they are also available as an opportunity for HU graduate school students to nurture an extensive range of knowledge, skills, etc.

At the Graduate School of Advanced Science and Engineering, we grant credits of Joint Exercises in Advanced Science and Engineering Transdisciplinary Science and Engineering (Subject Specialized for the Transdisciplinary Science and Engineering Program: two credits) to students who have participated in a total of 15 of the joint seminars mentioned above during the enrollment in their course and completed the procedure below.

① Check information on joint seminars on the website of the Graduate School of Advanced Science and Engineering, relevant posters, or through other means.
② Download Joint Seminar Participation Slips (for a total of 15 seminars) from the website of the Graduate School of Advanced Science and Engineering.
③ Take the slip described in ② to the venue of the seminar or other event of your choice and have the faculty member in charge of the event affix a confirmation seal on the slip. You do not need to register through My Momiji.
④ After participating in a total of 15 seminars, have your supervisor affix an approval seal on the slips described in ② and submit them to the support office in charge of your program. You can apply for participation in Joint Seminars during the period from your enrollment in your master's course to your completion of the course.
⑤ You will earn the credits of Joint Exercises in Advanced Science and Engineering Transdisciplinary Science and Engineering at the end of the semester when you submit your slips. In the case of students of the Transdisciplinary Science and Engineering Program, the earned credits will be recognized as credits of a Subject Specialized for the Program. In the case of students of other programs, the credits will be treated as credits of a Specialized Subject for Other Programs.

10. 中四国 VISTA(Value-Integrated Semiconductor Talent Acceleration)

Hiroshima University, in collaboration with Okayama University, Yamaguchi University, and Ehime University, offers the "中四国 VISTA(Value-Integrated Semiconductor Talent Acceleration)" to cultivate professionals possessing both advanced expertise and a comprehensive perspective across diverse fields related to the semiconductor industry. This program implements the following practical educational approach that transcends traditional departmental boundaries. It enables students to build upon their core expertise while gaining a comprehensive overview of cutting-edge semiconductor technologies. It cultivates the motivation and ability to challenge new research frontiers, along with a business mindset.

① Semiconductor Core Subjects: At least 1 credit from the following subjects
- Career Developments in Semiconductor Industry
  (Courses in collaboration with semiconductor-related companies)
- Subjects offered by partner universities

② Semiconductor Special Seminar Subjects: At least 2 credits from the following subjects
- CMOS Process Training
- Modern Society and Semiconductor Technology
  (Courses in collaboration with semiconductor-related companies)
- Subjects offered by partner universities

③ Specialized Education Program Subjects: At least 8 credits from specialized subjects within your assigned program

11. Completion Schedule (Master's Courses)

Year	Enrollment in Apr.	Enrollment in Oct.	Student	Supervisor/ Subadvisor Group	Program Faculty Committee/ Faculty Council, etc.
First Year	Apr.	Oct.	Orientation guidance	Give advice for class registration planning	Inform students of education and research targets
			Receive Research Ethics Education (Graduate School Students - Basic)		
			Submit a Notification of the Research Title	Approve the notification	Approve the Notification of the Research Title
			Consider a class registration plan	Supervise class registration planning	
			Establish a research plan	Supervise research planning	
	Oct.	Apr.	Consider a class registration plan	Supervise class registration planning	
			Submit an Outline of Research Plan		Accept the Outline of Research Plan
	Nov. - Dec.	May to Jun.	Interim presentation	Supervise interim presentation	
			Review the research plan	Supervise research planning	
	Feb.	Jul.	Resubmit the Outline of Research Plan (If any corrections)		Accept the Outline of Research Plan
Second Year	Apr.	Oct.	Consider a class registration plan	Supervise class registration planning	
			Establish a master's thesis writing plan	Give supervision & advice for the master's thesis writing plan	
	Sep.	Mar.	Receive Research Ethics Education (Graduate School Students – Advanced)	Issue a Research Ethics Education Completion Certificate	
			Submit an Outline of Master's Thesis		Approve the Outline of Master's Thesis
	Oct.	Apr.	Consider a class registration plan	Supervise class registration planning	
			Write the master's thesis	Supervise thesis writing	Organize the Screening Committee
	Jan.	Jul.	Submit the master's thesis	Screen the thesis	
			Submit a Summary of Master's Thesis		
	Feb.	Aug.	Given an oral presentation for the master's thesis (public screening)		
			Final examination		Screen by the Screening Committee
			Earn the required credits		Final screening
	Mar.	Sep.	Complete the master's course and earn the degree		

In case of completing a master's course by passing the qualifying examination for research in the doctoral course

Year	Enrollment in Apr.	Enrollment in Oct.	Student	Administration Meeting of the Organization of the Leading Graduate Education Program	Program Faculty Committee/ Faculty Council, etc.
Second Year	Oct.	Apr.	Submit an Application for the Qualifying Examination for Research in the Doctoral Course		
	Dec. - Feb.	Jun. - Aug.		Qualifying examination for research in the doctoral course	
	Feb.	Aug.		Screening	Final screening
	Mar.	Sep.	Complete the master's course and earn the degree		

12. Master's Thesis Screening and Final Examination

Implementation Guidelines of the Master's Thesis Screening and Final Examination of the Graduate School of Advanced Science and Engineering, Hiroshima University

(Established on April 1, 2020)

(Overview of Master's Thesis)

Article 1: Students who plan to submit a master's thesis shall submit an Overview of Master's Thesis to the Dean of the Graduate School (Dean of the Program) by the due date designated by their diploma program after obtaining approval from their supervisor. In principle, the due date for students who are expected to complete their course in March is set for September, while that for students who are expected to complete their course in September is set for March.

(Submission of Master's Thesis)

Article 2: In principle, the thesis submission due date designated by the relevant diploma program is set for January in the case of students who are expected to complete their course in March and for July in the case of students who are expected to complete their course in September.

2 Students shall submit one (1) copy of their thesis.

3 Students shall submit their thesis to the Dean of the Graduate School (Dean of the Program) after obtaining approval from their supervisor.

4 The Dean of the Graduate School shall refer the received thesis to the Thesis Screening Committee.

(Submission of Summary of Master's Thesis)

Article 3: In principle, the Summary of Master's Thesis submission due date designated by the relevant diploma program is set for January in the case of students who are expected to complete their course in March and for July in the case of students who are expected to complete their course in September.

2 Students shall submit one (1) copy of their Summary of Master's Thesis.

(Submission of Master's Thesis Submission Confirmation)

Article 4: In principle, the Master's Thesis Submission Confirmation submission due date designated by the relevant diploma program is set for January in the case of students who are expected to complete their course in March and for July in the case of students who are expected to complete their course in September.

2 Students shall submit one (1) copy of their Master's Thesis Submission Confirmation.

3 After receiving the plagiarism check by the supervisor, submit it with the confirmation result (copy of the confirmation screen) of the plagiarism checking software iThenticate.

(Thesis Screening)

Article 5: Each Dean of the Program shall inform the Dean of the Graduate School of the names of the supervisors/subadvisors and other thesis-related faculty members as the members expected to constitute the Thesis Screening Committee. The Deans must do so by February 1 for students who are expected to complete their course in March and by July 1 for students who are expected to complete their course in September.

2 The Thesis Screening Committee shall consist of a chief referee and two (2) or more sub-referees under approval from the Faculty Council. At least one (1) of the sub-referees shall be selected from among the faculty members of other programs or other graduate schools of Hiroshima University. It is allowed to select a sub-referee(s) from among researchers of other universities, research institutes, companies, etc.

3 The Thesis Screening Committee shall decide whether to pass or fail the theses that they have screened.

(Master's Thesis Oral Presentation)

Article 6: A master's thesis oral presentation shall be given openly to faculty members and students of the Graduate School. If the presentation concerns intellectual property, however, the presentation can be given behind closed doors based on a request from the relevant supervisor/subadvisors.

(Final Examination)

Article 7: Each diploma program shall administer a final examination for students who have passed the thesis screening and decide whether to pass or fail them.

2 The final examination shall be completed by the end of February for students who are expected

to complete their course in March and by the end of August for students who are expected to complete their course in September.

(Completion Decision)

Article 8: Each Dean of the Program shall submit a screening report, stating the results of the thesis screening and final examination, to the Dean of the Graduate School (support office in charge of each diploma program [support office in charge of the master's course]) by the end of February for students who are expected to complete their course in March and by the end of August for students who are expected to complete their course in September.

2 The Dean of the Graduate School shall bring the completion decision for discussion at the Faculty Council based on the screening report, and the Faculty Council shall engage in the discussion.

(Registration of Master's Theses in the Institutional Repository)

Article 9: Students can register their master's thesis in the Hiroshima University Institutional Repository (open to the public online free of charge) as long as they wish to do so and have approval from their supervisor.

2 To complete the registration procedure, students must submit their Summary of Master's Thesis, electronic files of their master's thesis and Summary of Master's Thesis, and one (1) copy of a Consent of Registration in the Institutional Repository.

(Other)

Article 10: If any matter occurs that cannot be handled based on the guidelines, the Faculty Council shall engage in a discussion and make the necessary decision each time.

13. Decision Criteria for Awarding Degrees and Evaluation Standards for Degree Theses (Master's Courses)

At the Graduate School of Advanced Science and Engineering of Hiroshima University, we shall award a master's degree to those who are deemed appropriate after the screening process for the master's degree based on the decision criteria below:

1. Those who will earn a master's degree shall be equipped with sufficient study skills and high-level, specialized capabilities in their specialized area based on the Diploma Policy and also boast wide intelligence and an ability to judge comprehensively.
2. Those who will earn a master's degree shall have their master's thesis evaluated based on the Evaluation Standards for Degree Theses below. In addition, they shall give a research presentation appropriate as academic research results at a presentation session or screening session in their specialized field and respond to inquiries logically and clearly.
3. The procedure for submitting a master's thesis shall be indicated separately.

(Evaluation Standards for Degree Theses)

I. Thesis Evaluation Points

(1) Whether or not the student has acquired sufficient knowledge as a master's degree holder in the relevant research field and has obtained the ability to identify problems clearly and solve them

(2) Whether or not the student's research theme is appropriate for the degree for which he/she has applied, and whether or not he/she was clearly aware of relevant problems when writing the thesis

(3) Whether or not the thesis descriptions (e.g. main text, charts, tables, quotations, etc.) are sufficient and appropriate, and whether or not the thesis has consistency in terms of logical composition from the beginning to the end

(4) Whether or not the student adopted an appropriate research method, survey/experimentation method, and demonstration method when researching his/her theme and included specific analysis/discussion based on them

(5) Whether or not the thesis has its own value from a logical or demonstrative perspective in the relevant research field

Specified Forms for Master's Course

研　究　題　目　届　（M）

Notification of the Research Title

Year　Month　Date
年　月　日　提出

学生番号 Student ID Number	M	プログラム名 Program	
ふりがな 氏　　名 Katakana Name			
研究題目 （英語の場合は，和訳を付すこと。） Research Title (Japanese Title)			
取得済み教員免許状			
取得予定の教員免許状			

※指導教員と相談の上，記入すること。Please fill in after consulting with your academic advisor.

＜以下は主指導教員が記入＞ The followings are written by supervisor.

指　導　教　員　氏　名	
主指導教員氏名：　　（研究指導計画を策定し副指導教員と共有して学生に明示　□）	
主指導教員と同じ専門分野の副指導教員	氏　　名： ﾌﾟﾛｸﾞﾗﾑ：
	氏　　名： ﾌﾟﾛｸﾞﾗﾑ：
	氏　　名： ﾌﾟﾛｸﾞﾗﾑ：
主指導教員と異なる専門分野の副指導教員	氏　　名： ﾌﾟﾛｸﾞﾗﾑ： 専門分野：
	氏　　名： ﾌﾟﾛｸﾞﾗﾑ： 専門分野：
	氏　　名： ﾌﾟﾛｸﾞﾗﾑ： 専門分野：

※副指導教員は 2 人以上とし，うち 1 人は主指導教員と異なる専門分野の教員とする。（他研究科又は他大学の教員も可能とする。）

※研究指導計画は，依頼があれば直ちに提出すること。

研 究 計 画 概 要

Outline of Research Plan

学 生 番 号 Student ID Number	M	プログラム Program	
氏 名 Name			
研 究 題 目 Research Title			
研 究 計 画 概 要 Outline of Research Plan			

上記のとおり提出します。

I hereby submit as above.

広島大学大学院先進理工系科学研究科長 殿

To: The Dean of the Graduate School of Advanced Science and Engineering

年 月 日

Year / Month / Day

学生番号:M
Student ID Number

学生氏名:
Name

主指導教員氏名:

Main Supervisor

副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:
副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:

修 士 論 文 概 要

Outline of the Master's Thesis

学 生 番 号 Student ID Number	M	プログラム Program		
氏 名 Name			申 請 学 位 * Application Degree	修士(　　) Master of _____
論 文 題 目 Thesis Title				
論 文 概 要 Thesis Outline	**＊字数は 800 字程度(日本語)又は 300 語程度(英語)とし，研究目的・方法・結果・考察(結論)を記載してください。** Please describe your research purpose, method, results, and discussion (conclusion) in about 800 characters (Japanese) or about 300 words (English).			

上記のとおり提出します。

I hereby submit as above.

広島大学大学院先進理工系科学研究科長　殿

To: The Dean of the Graduate School of Advanced Science and Engineering

年　　月　　日

Year / Month / Day

学生番号:M
Student ID Number

学生氏名:
Name

主指導教員氏名:
Main Supervisor

副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:
副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:

取得できる学位／Degree Options

※量子物質科学プログラム及び理工学融合プログラムの学生は、「取得できる学位」から一つを選んで「申請学位」欄に記入すること。

Students in the Quantum Matter Program or the Transdisciplinary Science and Engineering Program need to choose one of the degree options below and fill in the "Application Degree."

量子物質科学プログラム Quantum Matter Program	修士（理学）	Master of Science (Quantum Matter Program)
	修士（工学）	Master of Engineering (Quantum Matter Program)
	修士（学術）	Master of Philosophy (Quantum Matter Program)
理工学融合プログラム Transdisciplinary Science and Engineering Program	修士（理学）	Master of Science (Transdisciplinary Science and Engineering Program)
	修士（工学）	Master of Engineering (Transdisciplinary Science and Engineering Program)
	修士（学術）	Master of Philosophy (Transdisciplinary Science and Engineering Program)
	修士（国際協力学）	Master of International Cooperation Studies (Transdisciplinary Science and Engineering Program)

※以下のプログラムの学生が取得できる学位は次のとおり。

For students in the following programs, the chart below shows the master's degree which each program offers.

数学プログラム Mathematics Program	修士（理学）	Master of Science (Mathematics Program)
物理学プログラム Physics Program	修士（理学）	Master of Science (Physics Program)
地球惑星システム学プログラム Earth and Planetary Systems Science Program	修士（理学）	Master of Science (Earth and Planetary Systems Science Program)
化学プログラム Chemistry Program	修士（理学）	Master of Science (Chemistry Program)
応用化学プログラム Applied Chemistry Program	修士（工学）	Master of Engineering (Applied Chemistry Program)
化学工学プログラム Chemical Engineering Program	修士（工学）	Master of Engineering (Chemical Engineering Program)
電気システム制御プログラム Electrical, Systems, and Control Engineering Program	修士（工学）	Master of Engineering (Electrical, Systems, and Control Engineering Program)
機械工学プログラム Mechanical Engineering Program	修士（工学）	Master of Engineering (Mechanical Engineering Program)
輸送・環境システムプログラム Transportation and Environmental Systems Program	修士（工学）	Master of Engineering (Transportation and Environmental Systems Program)
建築学プログラム Architecture Program	修士（工学）	Master of Engineering (Architecture Program)
社会基盤環境工学プログラム Civil and Environmental Engineering Program	修士（工学）	Master of Engineering (Civil and Environmental Engineering Program)
情報科学プログラム Informatics and Data Science Program	修士（情報科学）	Master of Informatics and Data Science
スマートイノベーションプログラム Smart Innovation Program	修士（工学）	Master of Engineering (Smart Innovation Program)

修 士 論 文 要 旨

Summary of the Master's Thesis

学 生 番 号 Student ID Number	M	プログラム Program	
氏 名 Name		主指導教員 Supervisor	
論 文 題 目 Thesis Title			

修士論文・卒業論文の学術情報リポジトリ登録許諾書

年　月　日

広島大学図書館長　殿

私が執筆した下記の（修士論文・卒業論文）の全文について、広島大学学術情報リポジトリを通してインターネット上で無償公開することを許可します。

記

本人記入欄

（フリガナ） 氏名（自署）		
論文題目		
		年度　　（学部 ・ 研究科）（卒業 ・ 修士）論文
連絡先	住所	
	電話	
	電子メール	

指導教員記入欄

氏名（自署）	

＜注意事項＞

1. この許諾書は、修士論文・卒業論文のインターネット公開のため、著作権のうち複製権・公衆送信権について許可を与えていただくものです。
2. あなたの論文の著作権を譲渡している（予定がある）場合や、特許・実用新案等の申請予定がある場合は、インターネット公開ができない場合があります。
3. この許諾に関しては、指導教員の承認が必要です。
4. この許諾書に記載いただいた事項は、目的以外の用途には使用いたしません。

※論文に関する著作権については、裏面を参考に確認をしてください。

連絡先：
739-8512　東広島市鏡山 1-2-2
広島大学図書館　図書学術情報企画グループ　学術情報企画主担当
TEL :082-424-6228（内線　東広島 6228）
E-Mail: tosho-kikaku-jyoho@office.hiroshima-u.ac.jp

（注）

以下のような場合、修士論文・卒業論文を学術情報リポジトリによりインターネット公開することはできません。

・論文の一部又は全部を学術雑誌等に掲載していて、著作権を出版社や学会に譲渡している場合
・今後、論文の一部又は全部を学術雑誌等に投稿する予定があり、著作権を譲渡する必要がある場合。学術情報リポジトリによりインターネット公開したものは、公表済の業績として扱われる場合があります。

なお、この許諾書の提出により学術情報リポジトリで公開した修士論文・卒業論文は、原則として削除（非公開）することはできません。

Date: ____ / ____ / ____
Month / Day / Year

Master's Thesis Submission Confirmation

To the President of Hiroshima University

Graduate School: _____

Department: _____

Grade: _____ Student ID number: _____

Name: _____

In submitting the Master's Thesis, I confirm that the statements below are all true.

Title of the thesis: _____

Check the appropriate box.

☐ The author took the required educational program on research ethics, and sufficiently understood the principles and expectations for ethical research.

☐ The author did not commit any misconduct in the research such as fabrication, falsification, or plagiarism.

☐ The author did not infringe upon copyright. (Works were cited in an appropriate manner as described in A – D below, or copyright clearance was obtained to use the work in writing the thesis.)

A Quotation is from a work already made public.

B Quotation is used in a manner compatible with fair practice.
* Quotation is used only when deemed necessary.
* Quotation is clearly indicated by devices such as quotation marks.

C Quoting from a work is permissible to the extent justified by the purpose of the quotation.
* The subordinate-superior relationship between quoted parts and other passages in the text is clear.
* Quotation is not used more than is absolutely necessary.

D Sources are clearly indicated.

☐ There are no human research subjects who require privacy protection, or the privacy of the research subject is protected (the subject agreed to participate in the study, and also agreed on the manner of publication).

Signature: _____

I, the main advisor, hereby confirm the above.

Main Advisor

Status: _____

Name(signature): _____

Date Confirmed: ____ / ____ / ____
Month / Day / Year

☐ The advisor has confirmed that there is no plagiarism or theft in this thesis by following methods:
(1) Use of the plagiarism checking software iThenticate
(2) Confirmation that citations have been made in an appropriate manner
* Please attach a copy of the screenshot of the iThenticate results (where the similarity rate (%) is displayed).

Doctoral Course

14. Class Subjects and Registration (Doctoral Courses)

Appended Table 3 (Article 4 and Article 5, 1)
Mathematics Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Seminar in Mathematics	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits
(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year
1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Physics Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Research in Physics	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Earth and Planetary Systems Science Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study for Earth and Planetary Systems Science	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits
(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year
1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Chemistry Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Doctoral Thesis in Chemistry	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Applied Chemistry Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Applied Chemistry	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Chemical Engineering Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Chemical Engineering	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Electrical, Systems, and Control Engineering Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Electrical, Systems, and Control Engineering	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits
(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year
1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Mechanical Engineering Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Mechanical Engineering	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits
(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year
1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Transportation and Environmental Systems Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Transportation and Environmental Systems	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Architecture Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Architecture	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Civil and Environmental Engineering Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Civil and Environmental Engineering	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits
(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year
1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Informatics and Data Science Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Informatics and Data Science	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits
(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits
(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits
(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year
1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Smart Innovation Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study on Smart Innovation	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Quantum Matter Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Advanced Study in Quantum Matter	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

Transdisciplinary Science and Engineering Program Doctoral Course

Subject Type		Subjects	Eligible Class Year	No. of Credits		No. of Required Credits	
				Compulsory	Compulsory Elective		
Common Graduate Subjects	Sustainable Development Subjects	SDGs Ideas Mining Seminar for Specialists	1・2・3		1	1 or more	2 or more
		Seeking Universal Peace	1・2・3		1		
		Atomic Bomb Literature, WarLiterature and Peace -Based onExperience of Atomic BombSurvivors and ConcentrationCamps' Prisoners	1・2・3		1		
	Career Development and Data Literacy Subjects	Data Science	1・2・3		2	1 or more	
		Pattern Recognition and Machine Learning	1・2・3		2		
		Pathway to becoming a Data Scientist	1・2・3		1		
		Utilization of data Literacy in Medicine	1・2・3		1		
		Skills and Arts of Leadership	1・2・3		1		
		Career Management Seminar	1・2・3		1		
		Introduction to business creation	1・2・3		1		
		Innovation Practice	1・2・3		2		
		Long-term internship	1・2・3		2		
Common Graduate School Subjects	Internatio -nalism	Academic Writing II	1・2・3		1	1 or more	2 or more
		Academic Research Overseas	1・2・3		2		
	Sociality	Management and Entrepreneurship	1・2・3		1	1 or more	
		Technology Strategy and R&D Management	1・2・3		1		
		Introduction to Advanced Technology Management	1・2・3		1		
		Long-term Internship	1・2・3		2		
		Chiral Knot Special Seminar II	1・2・3		2		
Subjects Specialized for the Program		Special Study of Advanced Science and Engineering Transdisciplinary Science and Engineering	1～3	12		12 or more	

【Registration Method and Completion Requirements】

To complete your doctoral course, you need to earn 16 or more credits based on the following requirements, receive necessary research guidance, and pass the doctoral thesis screening and the final examination.

Necessary No. of Credits for Completing Your Course: 16 or more credits

(1) Common Subject for the HU Graduate Schools: 2 or more credits
- Sustainable Development Subject: 1 or more credits
- Career Development and Data Literacy Subject: 1 or more credits

(2) Common Subject for the Graduate School: 2 or more credits
- Internationalism: 1 or more credits
- Sociality: 1 or more credits

(3) Subject Specialized for the Program: 12 or more credits

(Note) Eligible Class Year

1～3: Register in the first, second, and third years; 1・2・3: Register regardless of your year

15. Common Graduate Courses (Doctoral Course)

Graduate Schools of Hiroshima University offer the graduate students the Common Graduate Courses which are designed to develop their broad perspective, interest in society, and awareness of problems, and to deepen their consideration of how each specialized field can contribute as "a science leading to sustainable development".

Additionally, the courses help them grasp the latest developments in the social system and acquire the basic knowledge to play an active part in modern society.

All graduate students are required to take at least one (1) credit from each of subject types, “Sustainable Development Courses” and “Career Development and Data Literacy Courses”.

〈Subject Type and Educational Goals〉

◆Sustainable Development Courses

To understand the Sustainable Development Goals (SDGs), which are agreed internationally, to acquire the ability to create sciences which lead to sustainable development, and to solve various challenges in society.

◆Career Development and Data Literacy Courses

To learn about the development of current social systems, to gain knowledge necessary for the future era, to specifically tackle the challenges of modern society, and to acquire the ability to use the knowledge and skills necessary in the future era.

< Course List (AY2026) >

Subject Type	Subjects	Credits	Subjects available in English
Sustainable Development Courses	SDGs Ideas Mining Seminar for Specialists	1	
	Seeking Universal Peace	1	◎
	Atomic Bomb Literature, War Literature and Peace -Based on Experience of Atomic Bomb Survivors and Concentration Camps' Prisoners	1	◎
Career Development and Data Literacy Courses	Data Science	2	
	Pattern Recognition and Machine Learning	2	◎
	Pathway to becoming a Data Scientist	1	
	Utilization of Data Literacy in Medicine	1	○
	Skills and Arts of Leadership ※Not offered from AY2027 onwards.	1	
	Career Management Seminar	1	◎
	Innovation Practice	2	◎
	Long-term internship	2	○
	Introduction to business creation	1	◎

Note:

“◎” indicates that at least one class is offered in English (E).

“○” indicates that at least one class is offered in both Japanese and English (B), but no class is offered in English (E).

No mark indicates that all classes are offered in Japanese (J).

16. Common Subjects for the Graduate School (Doctoral Courses)

At the Graduate School of Advanced Science and Engineering, we strive to foster human resources who are equipped with understanding of and advanced, high-level specialty in an extensive field, covering both the basics and application, in science, engineering and information science, as well as in their related research areas; and who can contribute to solving social problems by cooperating flexibly with those from other fields to achieve integration of understanding with their own specialized area. To this end, we systematically provide not only specialized subjects for each diploma program but also the Common Subjects for the Graduate School, listed below, in order to create "science for sustainable development," stimulate students' motivation for making social contribution through such creation, and develop their cross-disciplinary ability, communication skills necessary for cooperation, and ability to apply their expertise to society.

Please check the class contents, requirements, evaluation, registration, and credits, including how to earn two or more credits (one or more credits of a subject in the category "Internationalism" and one or more credits of subjects in the category "Sociality").

Subject List

Subject Type	Subjects [Credits]	Class Contents and Class Requirements, etc.
Internationalism	Academic Writing II [1 credit]	- Class Contents - In this class, you will actually write a thesis in English and contribute it to a journal, thereby striving to obtain practical and specific writing skills, including how to evaluate your research, how to select a journal to which you will contribute your thesis, and how to collect research data. While learning about an easy-to-understand, logical thesis composition by looking at specific examples, you will strive to obtain English writing techniques. - Class Requirements, etc. - ① For an academic English thesis which you will contribute to a journal or release to the public, prepare a plan together with your supervisor and receive guidance regarding how to write an English thesis. You do not need to register through My Momiji for taking this class. ② A credit will be granted based on the report from your supervisor regarding the implementation of the class.
	Academic Research Overseas [2 credits]	- Class Contents - At the graduate school, we send students to overseas laboratories with a view to fostering human resources who can serve as international leaders and perform advanced, integrated research in the field of natural science. While actually engaging in research in cooperation, you will also experience discussions with overseas faculty members and students and oral presentations in seminars, thereby striving to enhance the English communication skills necessary for research activities in the specialized field of natural science and deepen your understanding of the importance of an international network for promoting your research from a broad perspective. After returning to Japan, you will give a presentation in English regarding your overseas education and research activities at a reporting session attended by evaluation members (optional request) and other students. Your performance will be evaluated based on the presentation. - Class Requirements, etc. - ① Give a presentation at an international conference or engage in international joint research in consultation with your supervisor. You do not need to register through My Momiji for taking this class. The standard time of your work for this class is set as 30 or more hours, but please engage in the work without interrupting your regular classes. ②After completing your activity, submit an Application for Recognition of Credits, a report stating your conference or other activity schedule, the relevant organization, the activity details and other necessary information, and reference materials, such as a conference summary, to your supervisor. ③Deliver a report in English at the reporting session organized for your diploma program.

		④Your performance will be evaluated based on the details of your presentation at the reporting session, your discussion details, the level of your accomplishment in terms of the purposes of your academic activities and research, and the results that you have generated before credits are granted.
Sociality	Management and Entrepreneurship [1 credit]	- Class Contents - If traditional management is described as a style for "right-handers," entrepreneurship is a management style for "left-handers." While the focus of the former is on "exploitation" of value from the existing businesses, the purpose of the latter lies in "exploration" to create new value. If a company or organization wishes to thrive forever, it needs to be "both-handed." In this class, you will learn about the differences between management and entrepreneurship, using English videos and other materials. The basic elements for the "both-handed" style of management can be applied to research activities. The accomplishment target is to build up specific images of management and entrepreneurship by reviewing your own research activities through insights from the perspective of economics. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Technology Strategy and R&D Management [1 credit]	- Class Contents - The target of this class is to systematically learn about technology strategies and research development management, which constitute the main issues of technology management. If a company or organization strives to achieve its business purpose by using its technology resources, it needs to understand multiple aspects of its technologies and the features of its technology strategies. It also needs to establish a policy for reinforcing its technologies, set and implement research and development (R&D) themes, evaluate the results, and reflect the results in the next strategies. In this class, you will learn about how to do these things. In addition, you will also deepen your knowledge about intellectual property strategies and possible future developments. Moreover, you will also familiarize yourself with the methods for process management and resource management, which are needed for R&D management, the stimulation of human resources' creativity and imagination and other ways to develop human resources, career path support and other ways to manage human resources, and organization design and operations. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Introduction to Advanced Technology Management [1 credit]	- Class Contents - The target of this class is to systematically learn about technology application management. In the class, working professional students will strive to be equipped with the basic functions of technology strategies and technology application through case studies. They will select cases on which they can report, analyze such themes as research development, productization (service creation), manufacture/production, sales/marketing, and intellectual property/patent strategies, and then identify problems which they can work on. Such problems will be discussed by the students, their supervisors, and the faculty member in charge of MOT. In line with such discussions, the students will write a report on the results each time, and they will establish a business launch plan for a training purpose, thereby learning about how to apply technologies. - Class Requirements, etc. - You need to register through My Momiji for taking this class.
	Long-term Internship [2 credit]	- Class Contents - To be aware of the relationships between your specialized research and society and to develop into a researcher or high-level professional who can establish a sustainable society, you need to understand how specialized research is conducted in society and how development is conducted toward social implementation. Accordingly, the graduate school provides an opportunity to engage in a long-term internship at an academic agency or company in Japan or abroad so that you can learn about how to conduct research as a job, enhance your communication skills through discussion with working professionals and corporate employees, and increase your sociality as a working professional. After completing your internship, you will deliver a report regarding your

		activities at an internship reporting session attended by evaluation members (optional request) and other students. Your performance will be evaluated based on the report. - Class Requirements, etc. - ①Engage in an internship in consultation with your supervisor. You do not need to register through My Momiji for taking this class. The standard time of your work for this class is set as two or more weeks, but please engage in the work without interrupting your regular classes. ② After completing your activity, submit the following documents to your supervisor: an Application for Recognition of Credits; a report stating your internship schedule, place, organization, details and other necessary information; and an Internship Receiving and Completion Certificate prepared by your internship organization. ③Deliver a report at the reporting session organized for your diploma program. ④Your performance will be evaluated based on the details of your presentation at the reporting session, your discussion details, the level of your accomplishment in terms of the purposes of your academic activities and research, and the results that you have generated before credits are granted.
	Chiral Knot Special Seminar II [2 credit]	- Class Contents- Researchers from all over the world related to the International Institute for Sustainability with Knotted Chiral Meta Matter (WPI-SKCM^2) will conduct seminars on their respective fields of expertise on a regular basis to cultivate students with a wide range of knowledge and perspectives. - Class Requirements, etc.- ① Check the schedule and other details of the WPI-SKCM^2 Seminars in advance on the WPI-SKCM^2 website. ② Download and print out the "Application for Credit Approval Form" attached to the syllabus. ③ Bring the form to the seminar venue you wish to attend. After the seminar, obtain a confirmation stamp from the administrative staff. *Note: Registration via My Momiji is not required.* ④ After attending 15 WPI-SKCM^2 seminars, obtain an approval stamp or signature from your principal supervisor on the form and submit it to the Support Office for the fields of Science (in charge of WPI-SKCM^2). ⑤ Credits will be granted at the end of the semester in which the form is submitted.

単位認定申請書
Application for Recognition of Credits

年　　月　　日
Date: (Year)　(Month)　(Day)

先進理工系科学研究科長　　殿
To: The Dean of the Graduate School of Advanced Science and Engineering

プログラム
Program
学生番号
Student Number
氏　　名
Name

認定科目の単位等の認定を受けたいので，報告書等を添付の上，申請します。
I hereby apply for the recognition of the credits for designated courses, with reports or other required documents attached hereto.

該当科目に○ Put a circle in the appropriate box.	認定科目 Course	備　　考 Remarks
	海外学術活動演習 A Exercises in International Academic Studies A	博士課程前期 Master's Course
	海外学術活動演習 B Exercises in International Academic Studies B	博士課程前期 Master's Course
	インターンシップ Internship	博士課程前期 Master's Course
	海外学術研究 Academic research overseas	博士課程後期 Doctoral Course
	自然科学系長期インターンシップ Long-term internship	博士課程後期 Doctoral Course

主指導教員氏名 Name of Academic Supervisor			
主指導教員評価 Evaluation by Academic Supervisor	秀　優　良　可 Excellent, Very Good, Good, Fair	学務委員会認定 Certification of Academic Affairs Committee	

海外学術活動研究報告書
Report of Academic research overseas

提出日　　年　　月　　日
Date: Year　　Month　　day

学生番号 Student ID		氏名 Name	
プログラム Program			
共同研究機関 Collaborative investigation organization			
共同研究期間 Period	From ____/____/____ To ____/____/____ yyyy/mm/dd　　yyyy/mm/dd		
研究テーマ Theme			

共同研究内容の概要 Summary

今後の研究課題Future study

主指導教員所見Comments by Academic Supervisor

主指導教員　氏名

自然科学系長期インターンシップ報告書
Report of Long-term internship

提出日　　年　　月　　日
Date: Year　　Month　　day

学生番号 Student ID		氏名 Name	
プログラム Program			
実習先企業等 Institution			
実習期間 Period	From _____/____ / ____ (yyyy / mm / dd)　To _____/____ /____ (yyyy / mm / dd)		
実習テーマ Theme			
テーマの達成度，得られた成果等 Achievement level of theme, results obtained, etc			
今後の課題Future study			
主指導教員所見Comments by Academic Supervisor 主指導教員　氏名			

Date＿＿＿＿年＿＿＿月＿＿＿日
yyyy　　mm　　dd

広島大学大学院先進理工系科学研究科長　宛
To Dean of Graduate School of Advanced Science and Engineering, Hiroshima University

インターンシップ　受入・修了証明書
Certificate of Acceptance and Completion of Intership

下記のとおり受け入れ，修了したことを証明します。
We certify that we accepted the following person and he/she completed our international cooperative research.

記

受入学生氏名　　：＿＿＿＿＿＿＿＿＿＿＿＿　男 Male ・ 女 Female
Name of Student

生 年 月 日：＿＿＿＿年＿＿＿＿月＿＿＿＿日　生まれ
Date of Birth　yyyy　　mm　　dd

受入条件等 Acceptance Conditions	実習期間 Term	＿＿＿年＿＿月＿＿日 ～ ＿＿＿年 ＿＿月＿＿日 From: yyyy mm dd To: yyyy mm dd
	実習テーマ Research Theme	
	交通費等 Transportation Expenses	大学（または学生）の自己負担 Own Expense
	傷害・賠償責任保険等 Insurances	「学生教育研究災害傷害保険」および「学研災付帯賠償責任保険」に加入。（日本国外で実施する場合は，「海外旅行傷害保険」にも加入。） To buy Personal Accident Insurance (PAS) for Students Pursuing Education and Research and Liability insurance coupled with PAS. In case of conducting outside Japan, students must buy “University contracted Travel Insurance” additionally.

住　　所　Address ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

所属機関　Institution ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

所 属 長　Head of Institution ＿＿＿＿＿＿＿＿＿＿＿＿＿＿印

17. Completion Schedule (Doctoral Courses)

Year	Enrollment in Apr.	Enrollment in Oct.	Student	Supervisor/Subadvisor Group	Program Faculty Committee/ Faculty Council, etc.
First Year	Apr.	Oct.	Orientation guidance	Give advice for class registration planning	Inform students of education and research targets
			Receive Research Ethics Education (Graduate School Students - Basic)		
			Submit a Notification of the Research Title	Approve the notification	Approve the Notification of the Research Title
			Consider a class registration plan	Supervise class registration planning	
			Establish a research plan	Supervise research planning	
	Oct.	Apr.	Consider a class registration plan	Supervise class registration planning	
	Nov. - Dec.	May - Jun.	Interim presentation	Supervise interim presentation	
	Mar.	Aug.	Submit an Outline of Research Plan	Supervise research planning	Accept the Outline of Research Plan
Second Year	Apr.	Oct.	Consider a class registration plan	Supervise class registration planning	
			Establish a research plan	Supervise research planning	
	Oct.	Apr.	Consider a class registration plan	Supervise class registration planning	
	Nov. - Dec.	May - Jun.	Interim presentation	Supervise interim presentation	
	Mar.	Aug.	Receive Research Ethics Education (Graduate School Students – Advanced) (until around half a year before submitting a doctoral dissertation)	Issue a Research Ethics Education Completion Certificate	
			Submit an Outline of Doctoral Dissertation	Supervise research planning	Accept the Outline of Doctoral Dissertation
Third Year	Oct.	Apr.	Submit an Application for Preliminary Screening of Doctoral Dissertation		Accept the Application for Preliminary Screening of Doctoral Dissertation Organize the Preliminary Screening Committee
	Nov.	May	Submit an Outline of Doctoral Dissertation and a draft		
	Dec.	Jun.	Preliminary screening	Preliminary screening Announce the screening results	Screen by the Preliminary Screening Committee
	Jan.	Jul.	Submit the doctoral dissertation and other necessary documents		Accept the doctoral dissertation Organize the Screening Committee
	Jan. - Feb.	Jul. - Aug.	Dissertation screening (Open screening)	Screen the dissertation Announce the screening results	Screen by the Screening Committee
			(Submit the dissertation)		Final screening
	Mar.	Sep.	Complete the doctoral course and earn the degree		

18. Internal Regulations of the Graduate School of Advanced Science and Engineering Based on the Hiroshima University Degree Regulations

(Approved by the Dean of the Graduate School on April 1, 2020)

Internal Regulations of the Graduate School of Advanced Science and Engineering Based on the Hiroshima University Degree Regulations

Table of Contents

Chapter 1: General Provisions (Article 1 and Article 2)
Chapter 2: Degree Screening to Recognize the Completion of the Doctoral Courses of the Graduate School of Advanced Science and Engineering (Article 3 – Article 8)
Chapter 3: Degree Screening through the Submitted Dissertation (Article 9 – Article 15)
Chapter 4: Miscellaneous Provisions (Article 16 and Article 17)
Supplementary Provisions

Chapter 1: General Provisions

(Purpose)

Article 1: The Internal Regulations prescribe the necessary articles regarding the conferment of academic degrees at the Graduate School of Advanced Science and Engineering of Hiroshima University (the "Graduate School") based on Article 17 of the Hiroshima University Degree Regulations (the "Regulations") (Regulations No. 8 of April 1, 2004.).

(Names of the Majors Affixed when Conferring Degrees)

Article 2: The names of the majors affixed when the Graduate School confers degrees based on Article 3 (2) of the Regulations shall be as provided in the list below.

Division / Diploma Program		Major	
		Master's	Doctoral
Division of Advanced Science and Engineering	Mathematics Program	Science	Science
	Physics Program	Science	Science
	Earth and Planetary Systems Science Program	Science	Science
	Chemistry Program	Science	Science
	Applied Chemistry Program	Engineering	Engineering
	Chemical Engineering Program	Engineering	Engineering
	Electrical, Systems, and Control Engineering Program	Engineering	Engineering
	Mechanical Engineering Program	Engineering	Engineering
	Transportation and Environmental Systems Program	Engineering	Engineering
	Architecture Program	Engineering	Engineering
	Civil and Environmental Engineering Program	Engineering	Engineering
	Informatics and Data Science Program	Informatics and Data Science	Informatics and Data Science
	Smart Innovation Program	Engineering	Engineering
	Quantum Matter Program	Science Engineering Philosophy	Science Engineering Philosophy
	Transdisciplinary Science and Engineering Program	Science Engineering Philosophy International Cooperation Studies	Science Engineering Philosophy International Cooperation Studies
Joint International Master's Programme in Sustainable Development (Hiroshima University and Leipzig University)		Science	—

Chapter 2: Degree Screening to Recognize the Completion of the Doctoral Courses of the Graduate School of Advanced Science and Engineering

(Qualification for Submitting Theses and Timing)

Article 3: Those who can submit a degree dissertation (the "Dissertation") based on Article 2 (2) of the Regulations are those who have earned the credits prescribed in Article 15 of the By-laws of the Graduate School of Advanced Science and Engineering, Hiroshima University (approved by the Dean of the Graduate School on April 1, 2020) (the "designated Credits"), or those who will surely have earned the designated Credits by the end of the term when they submit the Dissertation and who have received guidance for the Dissertation preparation and others (the "Research Guidance").

2 Students shall submit the Dissertation by the due date designated by their diploma program. In principle, the due date for students who are expected to complete their course at the end of March is set for January of the academic year when they are expected to complete their course, while the due date for students who are expected to complete their course at the end of September is set for July of the academic year when they are expected to complete their course. However, those who have been enrolled in their course for three years or longer can carry out the degree application procedure as needed.

3 Notwithstanding the prescriptions of the preceding paragraph, if the Dissertation due date falls on either of the following items, the due date shall be replaced with the weekday immediately before that date.

(1) Sunday or Saturday

(2) National holiday prescribed by the Act on National Holidays (Act No. 178, 1948)

(Procedure for Submitting Degree Dissertation)

Article 4: If those applicable to Article 3-1 submit their Dissertation, they shall submit the following documents to the Dean of the Graduate School under approval from their supervisor.

(1) Application for Review of Dissertation – one (1) copy
(2) Dissertation (bound in a file) - one (1) copy
(3) List of Publications - one (1) copy
(4) Summary of Dissertation - one (1) copy
(5) Resume - one (1) copy
(6) Reference Papers, if any - two (2) copies
(7) Dissertation Submission and Publication Confirmation (application) - one (1) copy
(8) Electronic data of (2) and (4) - one (1) set
(9) Letter of Consent (not necessary in the case of single authorship) -one (1) copy

(Acceptance of the Dissertation)

Article 5: When the Dissertation is submitted based on the preceding article, the Dean of the Graduate School shall consult the Faculty Meeting of the Graduate School of Advanced Science and Engineering of Hiroshima University (the "Faculty Meeting") regarding whether to accept it or not.

(Screening Committee)

Article 6: If it has been decided to accept the Dissertation based on the prescription of the preceding article, the Dean of the Graduate School shall refer the Dissertation to the Faculty Meeting.

2 The Faculty Meeting shall immediately establish a Screening Committee based on the reference described in the preceding paragraph.

3 The Screening Committee shall consist of the chief referee and two (2) or more sub-referees.

4 The chief referee shall be selected from among the faculty members of the Graduate School.

5 At least one (1) of the sub-referees shall be selected from among the faculty members of other programs or other graduate schools of Hiroshima University. It is allowed to select a sub-referee(s) from among researchers of other universities, research institutes, companies, etc.

(Dissertation Screening Session)

Article 7: The Screening Committee shall organize an open dissertation screening session.

(Date of the Conferment of Academic Degree)

Article 8: Doctoral degrees shall be conferred on the following date to those who have passed the dissertation screening and the final examination.

(1) In the case of those who have passed within the standard completion period: Date of the diploma awarding ceremony (However, this can be replaced with the date of passing if there are any special circumstances deemed as legitimate by the Dean of the Graduate School after discussion with the Faculty Meeting.)

(2) In the case of those other than the above: Date of passing

Chapter 3: Degree Screening through the Submitted Dissertation

(Qualification for Applying for Degree Conferment)

Article 9: Those who apply to any of the following can apply for the conferment of a doctoral degree by submitting the Dissertation based on Article 2 (3) of the Regulations.

(1) Those who were enrolled in their doctoral course of the Graduate School for three (3) years or longer, had earned the designated Credits, and had received the Research Guidance before withdrawing from the university

(2) Those who have completed their master's course and are equipped with research experience of three (3) years or longer

(3) Those who have graduated from the university and are equipped with research experience of five (5) years or longer

(4) Those who do not apply to the preceding three items and who are equipped with research experience of nine (9) years

(Procedure for Submitting the Dissertation)

Article 10: If those who apply to any of the items in the preceding article submit the Dissertation, they shall submit the following documents to the President of Hiroshima University through the Dean of the Graduate School.

(1) Degree Application - one (1) copy
(2) Dissertation (bound in a file) - one (1) copy
(3) List of Publications - one (1) copy
(4) Summary of the Dissertation - one (1) copy
(5) Resume - one (1) copy
(6) Reference Papers, if any - two (2) copies
(7) Certificate of graduation from the last school (Certificate of completion of a graduate school program or a copy of the diploma) one (1) copy
(8) Certificate issued by the supervisor or an equivalent person who can verify the research period - one (1) copy
(9) Doctoral Dissertation Submission and Publication Confirmation (application) - one (1) copy
(10) Electronic data of (2) and (4) - one (1) set
(11) Letter of Consent (not necessary in the case of single authorship) - one (1) copy

2 Notwithstanding the prescriptions of the preceding paragraph, those who have graduated from Hiroshima University and those who have completed the Graduate School do not have to submit the documents prescribed in (7) and (8) if their research experience is limited only to Hiroshima University.

(Acceptance of the Dissertation)

Article 11: The prescriptions regarding the acceptance of the Dissertation shall be in line with the prescriptions of Article 5.

(Screening Committee and Interview Committee)

Article 12: The prescriptions regarding the Screening Committee shall be in line with the prescriptions of Article 6.

2 The Interview Committee shall consist of three or more faculty members of Hiroshima University selected from a field closely related to the theme of the Dissertation. However, it is allowed to include faculty members and others from other graduate schools, research institutes, etc. if it is deemed as necessary by the Faculty Meeting.

3 The Interview Committee shall include a chief referee selected from the faculty members of the Graduate School.

4 The members of the Screening Committee are allowed to serve as members of the Interview Committee.

(Contents of the Examination or Interview and Eligible Period)

Article 13: The number of foreign languages used for the interview based on Article 6 (3) of the Regulations is one (1) at the Graduate School.

2 The number of eligible years based on Article 6 (4) of the Regulations is three (3) at the Graduate School.

Article 14: For those who have passed the dissertation screening and the interview or examination, doctoral degrees shall be conferred on the date of their passing.

(Dissertation Screening Committee)

Article 15: The Screening Committee shall organize an open dissertation screening session.

Chapter 4: Miscellaneous Provisions

(Document Formats)

Article 16: The formats of the documents concerned shall be from Appended Format No. 1 to Appended Format No. 10.

(Other)

Article 17: Any necessary matters relevant to the conferment of academic degrees not stipulated in the present internal regulations shall be determined following deliberations by the Faculty Meeting.

(Supplementary Provisions Omitted)

別記様式第１号
Attached Form 1

年　　月　　日
Date: (Year)　(Month)　(Day)

広島大学大学院先進理工系科学研究科長　殿
To: Dean of Graduate School of Advanced Science and Engineering,
Hiroshima University

年　　月　　日入学・進学
Enrollment Date: (Year)　(Month)　(Day)
広島大学大学院先進理工系科学研究科
Graduate School of Advanced Science and Engineering, Hiroshima University
博士課程後期　先進理工系科学専攻
Doctoral Course
Division of Advanced Science and Engineering
プログラム
Program

氏名　　㊞
Name　　Seal

学位論文審査願
Application for Review of Dissertation

広島大学大学院先進理工系科学研究科博士課程後期修了の認定を受けるため，広島大学学位規則第 4 条第 1 項の規定に基づき，下記関係書類を提出いたしますから，審査くださるようお願いします。
In order to receive approval for completion of the doctoral course of the Graduate School of Advanced Science and Engineering, Hiroshima University, I submit the related documents listed below for review based on the provisions of Article 4 (1) of the Hiroshima University Degree Regulations.

記

論文	１通
Dissertation	1 copy
論文目録	１通
List of Publications	1copy
論文の要旨	１通
Summary of Dissertation	1copy
履歴書	１通
Resume	1 copy
参考論文	２通
Reference Papers	2 copies

別記様式第３号

Attached Form 3

論文目録

List of Publications

	氏名 Name	印 Seal

学位論文
Dissertation

参考論文
Reference Papers

備考

Remarks:

１　学位論文及び参考論文については，論文題目，公表の方法，公表年月日及び冊数を記載すること。
For dissertations and reference papers, state the title of the dissertation, the method of publication, the date of publication, and the number of volumes.

２　論文題目が外国語の場合は，和訳を付けて，外国語，日本語の順序で列記し，日本語は(　)内に記載すること。
Write the title of the dissertation in the order of the foreign language (Japanese translation).

３　参考論文が２編以上ある場合は，列記すること。
If there are two or more reference papers, list them.

４　参考論文については，著者名，掲載誌名，巻，号，頁，年を付すこと。
For reference papers, write the author's name, publication name, volume, issue, page, and year.

５　論文をまだ公表していないときは，公表の方法及び時期の予定を記載すること。
If the paper has not been published yet, write the method and time of publication.

６　引用している特許及び特許出願が公表されているものは，参考論文に記載することができる。
Patents and patent applications cited that have been published can be described in reference papers.

７　論文の要旨は，4,000 字以内とすること。なお，英文の場合は，1,500 ワード以内とする。
Summary of the dissertation should be written in English and within 1,500 words.

８　用紙の規格は A4 とし，縦にして左横書きとすること。
Set the paper size to A4, write vertically and write horizontally on the left.

別記様式第４号

Attached Form 4

履歴書 Resume		
ふりがな Name in *katakana* 氏　　名 Name		男・女 Male/Female
生年月日 Date of birth		
本籍（都道府県名） Legal domicile (prefecture / country)		
現 住 所 Current address		

学　　歴
Academic history

職　　歴
Job history

研 究 歴
Research history

賞　　罰
Award and punishment

上記のとおり相違ありません。
I attest that the above information is true.

年　　月　　日
Date

氏　名　　印
Name　　Seal

備考
Remarks:

１　履歴事項は，高等学校卒業後の履歴について年次を追って記載すること。
For your academic history, give a chronological account beginning after your graduation from high school.

２　用紙の規格はA4とし，縦にして左横書きとすること。
Set the paper size to A4, write vertically and write horizontally on the left.

別記様式第５号

論文審査の要旨

<table>
<tr><td>博士の専攻分野の名称</td><td>博 士 （　　）</td><td rowspan="2">氏名</td><td rowspan="2"></td></tr>
<tr><td>学位授与の要件</td><td>学位規則第４条第１・２項該当</td></tr>
<tr><td colspan="4">論　文　題　目</td></tr>
<tr><td colspan="4">論文審査担当者
主　　査
審査委員
審査委員
審査委員</td></tr>
<tr><td colspan="4">〔論文審査の要旨〕</td></tr>
</table>

備考

審査の要旨は，1,500 字以内とする。

別記様式第６号

試験の結果の要旨

<table>
<tr><td>博士の専攻分野の名称</td><td>博 士 （　　）</td><td rowspan="2">氏　　名</td><td rowspan="2"></td></tr>
<tr><td>学位授与の要件</td><td>学位規則第４条第１・２項該当</td></tr>
<tr><td>学位プログラム名</td><td></td><td>学生番号</td><td></td></tr>
<tr><td colspan="4">論　文　題　目</td></tr>
<tr><td colspan="4">試 験 担 当 者
主　　査
審査委員
審査委員
審査委員</td></tr>
<tr><td colspan="4">〔試験の結果の要旨〕</td></tr>
</table>

備考

要旨は，400 字程度とし，試験の方法も記載すること。

別記第７号様式

試問の結果の要旨

<table>
<tr><td>博士の専攻分野の名称</td><td>博 士 （　　）</td><td rowspan="3">氏　　名</td><td rowspan="3"></td></tr>
<tr><td>学位授与の要件</td><td>学位規則第４条第１・２項該当</td></tr>
<tr><td>主査の担当学位プログラム名</td><td></td></tr>
<tr><td colspan="4">論　文　題　目</td></tr>
<tr><td colspan="4">試 問 担 当 者
主　　査
試問委員
試問委員
試問委員</td></tr>
<tr><td colspan="4">〔試問の結果の要旨〕</td></tr>
</table>

備考

要旨は，400 字程度とし，試問の方法も記載すること。

Attached Form 8

Doctoral Dissertation Submission and Publication Confirmation (Application Form)

Based on Articles 8 and 9 of the Degree Regulations (Ordinance of the Ministry of Education, Culture, Sports, Science and Technology No.9 of April 1, 1953) and on Articles 13 and 14 of the Hiroshima University Degree Regulations (No.8 of April 1, 2004) those who will receive a doctoral degree from Hiroshima University shall use the Hiroshima University Institutional Repository for the publication of the abstract of the dissertation content, the summary of the results of the dissertation screening and the entire dissertation.

When you submit a doctoral dissertation, please confirm the following requirements regarding application for a doctoral degree and publication in the Hiroshima University Institutional Repository then fill out the following form:

Applicant's Name:	
Graduate School where the Dissertation is to be Submitted:	
Title of the Dissertation:	

Inquiries :

① On the Institutional Repository and Copyright:

Hiroshima University Library Information Planning Group (Information Planning)
Tel : 082-424-6228 (Extension: Higashi-Hiroshima 6228)
Fax: 082-424-6211 (Extension: Higashi-Hiroshima 6211)
E-Mail: tosho-kikaku-jyoho @office.hiroshima-u.ac.jp
Hiroshima University Institutional Repository（HiR）Top page:
http://ir.lib.hiroshima-u.ac.jp/

② On the Confirmation (application form), electronic files, thesis reviews

Contact your support office (Student Support Section).

③ On Patent issues etc.

Contact your doctoral advisor or
Office of Research and Academia-Government-Community Collaboration
(Department of Intellectual Property)
Tel: 082-424-5597 Fax: 082-424-6133
E-Mail: chizai@hiroshima-u.ac.jp

1．Items to verify concerning the writing of the dissertation		
	☐	The author took the required educational program on research ethics, and sufficiently understood the principles and expectations for ethical research.
	☐	The author did not commit any misconduct in the research such as fabrication, falsification, or plagiarism.
	☐	The author did not infringe upon copyright. (Works were cited in an appropriate manner as described in A – D below, or copyright clearance was obtained to use the work in writing the thesis.) A Quotation is from a work already made public. B Quotation is used in a manner compatible with fair practice. * Quotation is used only when deemed necessary. * Quotation is clearly indicated by devices such as quotation marks. C Quoting from a work is permissible to the extent justified by the purpose of the quotation. * The subordinate-superior relationship between quoted parts and other passages in the text is clear. * Quotation is not used more than is absolutely necessary. D Sources are clearly indicated.
	☐	There are no human research subjects who require privacy protection, or the privacy of the research subject is protected (the subject agreed to participate in the study, and also agreed on the manner of publication).

※For official use only

学位記番号	甲 乙　第　　号	学位授与年月日	年　　月　　日

(Please fill in the following pages with the necessary information.)

2. Items to verify concerning the application of dissertation

☐	In cases of there being a coauthor, the coauthor has submitted the certificate of consent "I agree to declare this thesis as your academic dissertation" to avoid submission of an academic dissertation with the same contents by the coauthor. Alternatively, the dissertation is written by a single author.
☐	The electronic data of the entire dissertation and the abstract of the dissertation content will be submitted. In cases of unavoidable circumstances as described in the Hiroshima University Degree Regulations, article 14.2, the electronic data of the summary of the dissertation content will also be submitted. The data file format of the doctoral dissertation is PDF (PDF/A(ISO 19005 recommended).

3. Items to verify concerning publication in the Hiroshima University Institutional Repository

<Note>

1. Hiroshima University conducts internet publication of the entire dissertation or its abstract in the Hiroshima University Institutional Repository (hereinafter referred to as "Repository"). Note that by submitting this form "Doctoral Dissertation Submission and Publication Confirmation (Application Form)", you agree to matters concerning reproduction right and right of public transmission, both of which are part of copyright.
2. By publishing the data in the Repository, we manifest that data replication (print or download etc.) is strictly limited to purposes of investigative research, education, and study.
3. Note that the abstract of the dissertation content and the summary of the results of the dissertation screening will be published in the Repository within 3 months after the day the degree is awarded and the entire dissertation or the summary of the dissertation content within 1 year after the day the degree is awarded. Please note that we will post the information about publication on the home page of the Repository.

☐	When publishing the entire dissertation, the degree applicant has personally confirmed any applicable rights/copyrights.
☐	The applicant has no unavoidable circumstance as described in the Degree Regulation of the Hiroshima University, Article 14.2. (as described below A – H) . (Please check any box that applies below. If none of the following options apply, check the box on this option.)

【Unavoidable circumstances as described in the Hiroshima University Degree Regulations, Article 14.2】 (only choose appropriate entries)

A☐	Publication in the internet is virtually impossible because the thesis contains stereoscopic figures etc.
B☐	Text, charts or pictures etc. in the dissertation are not regarded as quotation according to the Copyright Law Article 32 and they are used with permission according to Article 63 of the same law, and publication in the Repository is beyond the sphere of permitted use and conditions. Additionally, publication in the Repository hasn't been permitted.
C☐	There is a coauthor and permission from him/her for publication in the Repository has not yet been obtained.
D☐	Copyrights have been granted, and permission from the copyright holder (publishing company or academic society) has not yet been obtained.
E☐	The dissertation is already submitted/published or planned to be submitted/published and permission from the magazine or publishing company has not yet been obtained.
F☐	There is private information or secrets concerning the object of research which are not allowed to be published.
G☐	The dissertation is planned to be submitted/published and publication of the whole text would create obvious disadvantages to the applicant.
H☐	The applicant has a plan to apply for patent or new design for practical use etc., and publication of the whole text would create obvious disadvantages to the applicant.

To the President of Hiroshima University:

For the reason stated above

(Details : _____) I wish to publish a summary of my doctoral dissertation instead of the whole text.

As soon as the unavoidable circumstances mentioned above are resolved, I will immediately resubmit this form to _____ and have the whole text of my dissertation published in the Repository.

【Assumed date of publication : Year 20____ , Month _____ , Day _____ 】

(☐ not yet determined)

(For official use only) Results of deliberations concerning the unavoidable circumstances	Year 20____ , Month _____ , Day _____ Approval by the Faculty Meeting of the Graduate School・the Board of Representatives ☐

4. Signatures of the applicant and the doctoral advisor

Signature of the Applicant for a Doctoral Degree (sign manually)		Year 20____ , Month _____ , Day _____
Signature of the Main Doctoral Advisor (sign manually)		Year 20____ , Month _____ , Day _____

☐ The advisor has confirmed that there is no plagiarism or theft in this dissertation by following methods:
(1) Use of the plagiarism checking software iThenticate
(2) Confirmation that citations have been made in an appropriate manner
* Please attach a copy of the screenshot of the iThenticate results (where the similarity rate (%) is displayed).

(In cases of a doctoral degree by dissertation only, the chief etc. must sign here.)

別記様式第 9 号(共著者の代表者からの承諾書様式)
Attached Form 9

承　　諾　　書
Letter of Consent

下記の論文を，　　氏の学位請求論文の公表論文とすることを共著者一同を代表して承諾いたします。
なお，この論文を，他の著者の博士学位請求の公表論文に再度使うことはいたしません。
I consent to assume the following article as the published article by which the author requests a doctoral degree.
In addition, I do not use this article again for a published article by which other author requests a doctoral degree.

記

1　著者名　Authors' names

2　題目　Paper Title

3　発表誌名　Name of Publication

4　巻（号）・頁・年　Volume,No.,pp

以上

年　　月　　日

共著者代表
（所属）
（氏名）　　印

備考
用紙の規格は，A4 とする。

別記様式第 9 号(共著者全員からの承諾書様式)
Attached Form 9

承　　諾　　書
Letter of Consent

下記の論文を，　　氏の学位請求論文の公表論文とすることを承諾いたします。
なお，この論文を，博士学位請求の公表論文に再度使うことはいたしません。
I consent to assume the following article as the published article by which the author requests a doctoral degree.
In addition, I do not use this article again for a published article for my doctoral degree.

記

1　著者名　Authors' names

2　題目　Paper Title

3　発表誌名　Name of Publication

4　巻（号）・頁・年　Volume,No.,pp

以上

年　　月　　日

共著者
（所属）
（氏名）　　印

備考
用紙の規格は，A4 とする。

Attached Form 10

Doctoral Dissertation Plagiarism Checking Confirmation

The review committee has confirmed that there is no plagiarism of theft in the following dissertation.

(1) Use of the plagiarism checking software iThenticate
(2) Confirmation that citations have been made in an appropriate manner

Applicant's Name:
Title of the Dissertation:

Date Confirmed: _____/_____/_____
Month / Day / Year

Confirmed by _____
(Name)

* Please attach a copy of the screenshot of the iThenticate results (where the similarity rate (%) is displayed).

* For official use only （事務記入欄）

学位記番号	甲 乙　第　　号	学位授与年月日	年　月　日

19. Decision Criteria for Awarding Degrees and Evaluation Standards for Dissertation (Doctoral Courses)

At the Graduate School of Advanced Science and Engineering of Hiroshima University, we shall award a doctoral degree to those who are deemed appropriate after the screening process for the doctoral degree based on the decision criteria below:

1. Those who will earn a doctoral degree shall be equipped with cross-disciplinary learning from an international point of view based on the Diploma Policy and also boast high-level, specialized capability with which they can perform research independently in their specialized area.
2. Those who will earn a doctoral degree shall have their doctoral dissertation evaluated based on the Evaluation Standards for Dissertation below. In addition, they shall give a research presentation that appropriately demonstrates their academic research results at a presentation or screening session in their specialized field and respond to inquiries logically and clearly.
3. The procedure for submitting a doctoral dissertation shall be indicated separately.

(Evaluation Standards for Dissertation)

I. Dissertation Evaluation Points

(1) Whether or not the student has acquired sufficient knowledge as a doctoral degree holder in the relevant research field, and whether or not he/she has obtained the ability to identify problems clearly and solve them

(2) Whether or not the student's research theme is appropriate for the degree for which he/she has applied, and whether or not he/she was clearly aware of relevant problems when writing the dissertation

(3) Whether or not the dissertation descriptions (e.g. main text, charts, tables, quotations, etc.) are sufficient and appropriate, whether or not the dissertation has consistency in terms of logical composition from the beginning to the end, and whether or not the dissertation leads to a logically, clear conclusion

(4) Whether or not the student adopted an appropriate research method, survey/experimentation method, and demonstration method when researching his/her theme, and whether or not he/she formulated specific analysis/discussion based on them

(5) Whether or not the dissertation has its own value when seen from a logical or demonstrative perspective in the relevant research field and when seen from international academic standards and a cross-disciplinary perspective

20. Requirements for Awarding Degrees and Criteria for Applying for Degrees (Doctoral Courses)

1. Requirements for Awarding Degrees
   (1) Must satisfy the Decision Criteria for Awarding Degrees and Evaluation Standards for Degree Theses of the Graduate School of Advanced Science and Engineering of Hiroshima University
   (2) For doctoral degrees earned by completing courses, must be enrolled for at least the period designated for the completion of the courses, earn the required credits, receive research guidance, submit a doctoral dissertation, and pass the dissertation screening and the final examination
   (3) For doctoral degrees earned mainly by writing a dissertation, must submit a doctoral dissertation and pass the dissertation screening and the final examination
   (4) A degree applicant must submit a doctoral dissertation of single authorship newly written to apply for an academic degree, and the main part of the dissertation needs to have been published as a peer-reviewed dissertation or to have been decided to be published as such. The criteria of such publication shall be set by each diploma program.

2. Criteria for Applying for Degrees
   For (i) and (ii) below, must satisfy the criteria set by each diploma program.
   (i) Peer-reviewed academic theses published in journals of related academic associations, etc. (including those that have been decided to be published)
   (ii) International conference theses (including those that have been decided to be published)

Diploma program	Doctoral Degree by Completing Course	Doctoral Degree Mainly by Writing Dissertation
Mathematics	In principle, at least one (i) of single authorship, or at least two (i) of joint authorship	In principle, at least two (i) (including at least one (i) of single authorship), or at least three (i) of joint authorship
Physics	In principle, at least one (i) (of first authorship or equivalent)	In principle, at least one (i) (of first authorship or equivalent)
Earth and Planetary Systems Science	At least one (i) (of first authorship). In principle, the thesis shall be an SCI thesis.	At least two (i) (both of which need to be theses of first authorship). In principle, they shall be an SCI thesis.
Chemistry	In principle, at least two (i). In the case of those who have joined the program without taking the master's course, at least one (i)	In principle, at least five (i)
Applied Chemistry	In principle, at least three (i) (including at least one (i) of first authorship)	In principle, at least five (i) (including one (i) of first authorship)
Chemical Engineering	At least three (i), or two (i) and at least one (ii). In either case, at least one (i) of first authorship	At least five (i) (including at least two (i) of first authorship)
Electrical, Systems, and Control Engineering	In principle, at least two (i) and at least one (ii)	In principle, at least five (i) and at least one (ii)
Mechanical Engineering	At least three (i), or two (i) and at least one (ii). In either case, at least one (i) of first authorship	At least five (i) (including at least two (i) of first authorship)
Transportation and Environmental Systems	At least two (i) (including at least one (i) of first authorship), or one (i) of first authorship and at least one (ii) of first authorship	At least three (i) (including at least one (i) of first authorship)
Architecture	At least two (i) (including at least one (i) of first authorship)	At least three (i) (including at least one (i) of first authorship)
Civil and Environmental Engineering	At least two (i) (both of which need to be theses of first authorship),	At least three (i) (all of which need to be theses of first authorship), including

		including at least one SCI thesis	at least one SCI thesis
Informatics and Data Science		In principle, at least two (i) (including one (i) of first authorship) and at least one (ii) of first authorship	In principle, at least four (i) (including at least one (i) of first authorship) and at least one (ii) of first authorship
Smart Innovation	Applied Chemistry	In principle, at least three (i) (including at least one (i) of first authorship)	In principle, at least five (i) (including one (i) of first authorship)
	Electrical, Systems, and Control Engineering	In principle, at least two (i) and at least one (ii)	In principle, at least five (i) and at least one (ii)
Quantum Matter		At least one (i)	At least one (i)
Transdisciplinary Science and Engineering	Environmental natural science	In principle, at least one (i) of first authorship or a writing work equivalent to that	In principle, at least three (i) of first authorship or writing works equivalent to them
	Development science	At least two (i) (both of which need to be theses of first authorship), including at least one thesis with impact factors	At least three (i) (all of which need to be theses of first authorship or corresponding authorship), including at least one thesis with impact factors

(Note) In the case of the Applied Chemistry Program, the Chemical Engineering Program, the Electrical, Systems, and Control Engineering Program, the Mechanical Engineering Program, the Transportation and Environmental Systems Program, the Architecture Program, the Civil and Environmental Engineering Program, and the Informatics and Data Science Program, degree application is available not only based on the above criteria but also on the criteria designed to foster generalists. For details, please contact the support office in charge of the relevant program.

21. Overview of the Screening Procedure for Doctoral Degrees Earned by Completing Courses

Item	Overview
Preliminary Screening	(Documents Submitted for Preliminary Screening) 1. Those who wish to apply for a doctoral degree shall submit to their supervisor an Application for Preliminary Screening of Doctoral Dissertation (designated format) and the documents designated by their diploma program. (Preliminary Screening Committee) 2. Based on a recommendation from the supervisor, the Program Faculty Committee shall nominate the members of a Preliminary Screening Committee and establish the committee through deliberations. (Preliminary Screening) 3. The Preliminary Screening Committee shall screen the submitted documents to decide whether or not to accept the degree application and allow the relevant individual who wishes to apply for the doctoral degree to complete the degree application procedure if deemed as appropriate. 4. If those who achieved outstanding research results wish to apply for the early completion system (Article 15, By-laws of the Graduate School of Advanced Science and Engineering, Hiroshima University), the Program Faculty Committee shall screen the submitted documents, based on the application criterion defined by the relevant diploma program, to decide whether or not to accept the degree application and allow the relevant individual who wishes to apply for the doctoral degree to complete the degree application procedure if deemed as appropriate.
Application Procedure	Degree applicants shall submit a set of the following documents to the support office by the date designated by their diploma program. Documents to Be Submitted (Article 4, Internal Regulations of the Graduate School of Advanced Science and Engineering based on the Hiroshima University Degree Regulations) ① Application for Review of Dissertation (Attached Form No. 1) - one (1) copy ② Dissertation (bound in a file) - one (1) copy ③ List of Publications (Attached Form No. 3) - one (1) copy (Give a Japanese translation in parentheses if the original title is in a language other than Japanese, and an English translation if in Japanese) ④ Summary of Dissertation - one (1) copy (The title of the dissertation, whether in Japanese or English, shall be the same as the one provided on the dissertation list [Attached Form No. 3].) ⑤ Resume (Attached Form No. 4) - one (1) copy ⑥ Reference Papers, if any - two (2) copies ⑦ Doctoral Dissertation Submission and Publication Confirmation (application) - one (1) copy ⑧ Electronic data of ③ and ⑤ - one (1) set ⑨ Letter of Consent (not necessary in case of single authorship) - one (1) copy ⑩ Other documents designated by the relevant diploma program ※ No need to pay a degree screening fee.

Acceptance Screening and Screening Committee established	1. Of the documents submitted for degree application, the Summary of Dissertation and Resume shall be distributed by the Faculty Meeting to all the professors at least seven days prior to the acceptance screening session.– 2. An objection shall be filed in writing to the Dean of the Graduate School within seven days from the distribution. 3. If it has been decided to accept the Dissertation, the Dean of the Graduate School shall refer the Dissertation to the Faculty Meeting. 4. If there is no objection, the explanation of the theses overview at the Faculty Meeting shall be omitted. 5. The Faculty Meeting shall immediately establish a Screening Committee based on the reference described in the preceding paragraph. 6. The Screening Committee shall consist of a chief referee and two (2) or more sub-referees. 7. The chief referee shall be selected from among the faculty members of the Graduate School. 8. At least one (1) of the sub-referees shall be selected from among the faculty members of other programs or other graduate schools of Hiroshima University. It is allowed to select a sub-referee(s) from among researchers of other universities, research institutes, companies, etc. (Article 6, Internal Regulations of the Graduate School of Advanced Science and Engineering based on the Hiroshima University Degree Regulations)
Dissertation Presentation	Immediately after receiving the documents above, the Screening Committee shall set a date of the dissertation presentation and submit the designated notification request form to the support office. (Notification spot: bulletin boards of the support office and the relevant program)
Examination	An examination shall focus on the degree dissertation and cover subjects related thereto. (Article 6 (1), Hiroshima University Degree Regulations)
Screening	1. The Screening Committee shall conduct the dissertation screening and examination. 2. When the dissertation screening and examination have been concluded, the Screening Committee shall immediately provide to the Faculty Meeting a summary of the dissertation content, a summary of the dissertation screening, a summary of the examination results, and a doctoral dissertation plagiarism checking confirmation through the following documents: − Summary of Dissertation Screening (Attached Form No. 5) − Summary of Examination Results (Attached Form No. 6) − Doctoral Dissertation Plagiarism Checking Confirmation (Attached Form No. 10) (Article 8 (1), Hiroshima University Degree Regulations) 3. The Program Faculty Committee shall conduct the degree conferment screening based on the submitted documents. The screening method shall be defined by the Program Faculty Committee.
Screening Period	1. The degree dissertation screening, examination and interview shall be completed within one year from the date of accepting the dissertation. 2. If there are any special circumstances, the period can be extended up to one year based on the deliberations by the Faculty Meeting.
Report from the Screening Committee	When it has been granted in the Program Faculty Committee to confer the degree based on the screening, the Dean of the Program shall immediately provide to the Faculty Meeting a summary of the dissertation screening and a summary of the examination results.
Dissertation Availability	The degree application dissertation shall be made available for inspection upon request.
Conferment Screening	1. The Faculty Meeting shall distribute the submitted degree dissertation screening report to all the professors at least seven days prior to the session of the Faculty Meeting of the Graduate School. 2. If there is no objection, the explanation of the degree dissertation screening report shall be omitted. 3. The decision on the degree conferment requires the attendance of at least two-thirds of all the members (excluding those on an overseas assignment or long-term sick leave) of the Faculty Meeting and a consensus of least two-thirds of the members in attendance. (Article 9 (2), Hiroshima University Degree Regulations)

Report to the President of the University	The Dean of the Graduate School shall report to the President of the University through the following documents. (1) Degree conferment report - one (1) copy (2) Resume - one (1) copy (3) List of Publications one (1) copy (4) Summary of Dissertation - one (1) copy (5) Summary of Dissertation Screening - one (1) copy (6) Summary of Examination Results - one (1) copy (7) Degree dissertation - one (1) copy (8) Doctoral Dissertation Plagiarism Checking Confirmation - one (1) copy
Date of Degree Conferment	1. In the case of those who have passed within the standard completion period (within three years [excluding the case of early program completion]): Date of the diploma awarding ceremony in September or March 2. In the case of those who have passed exceeding the standard completion period: Date of passing 3. In the case of those who have passed under the early completion system (those enrolled in their program for one year or more but less than three years): Date of passing or the date of diploma awarding ceremony in September or March

22. Application Procedure for Doctoral Degrees Earned by Completing Courses

1. Documents to Be Submitted and No. of Necessary Copies
   ① Application for Review of Dissertation (designated form) ····· one (1) copy
   ② Dissertation ····· one (1) copy
   ③ List of Publications (designated form)····· one (1) copy
   ④ Summary of Dissertation ····· one (1) copy
   ⑤ Resume (designated form)····· one (1) copy
   ⑥ Reference Papers, if any ····· two (2) copies
   ⑦ Doctoral Dissertation Submission and Publication Confirmation (application) (designated form)····· one (1) copy
   ⑧ Electronic data of Dissertation and Summary of Dissertation (PDF file)····· one (1) set
   ⑨ Letter of Consent (designated form) ····· one (1) copy
   ⑩ Other documents designated by the relevant diploma program

2. Points to Note When Filling Out the Necessary Documents
   (1) Entries may be handwritten (fountain or ball-point pen), typed, or electronically copied.
   (2) A single identical personal seal must be used for all the documents.

3. Application for Review of Dissertation
   Use Attached Form No. 1.

4. Dissertation
   Dissertation needs to be bound in file form (paper) with the title and the author's name inscribed on the front cover.

5. List of Publications
   (1) Format
      Use Attached Form No. 3.
   (2) Dissertation
      (A) Title
         i. Give the title (and the subtitle if applicable) as it appears on the submitted dissertation.
         ii. Give a Japanese translation in parentheses if the original title is in a language other than Japanese, and an English translation if in Japanese.
         iii. If the dissertation is composed of several papers each with a different title, give a collective title without specifying the individual titles.
      (B) Publication and Timing
         i. Theses for which Hiroshima University confers doctorates are published in the Hiroshima University Institutional Repository.
         ii. For publication, theses are usually published in their entirety. Regarding theses which have been published in their entirety but with minor modifications or omissions in such a manner as not to directly alter the research content when such publication was permitted, the dates of publication and the names of the journals in which the theses were published (as well as the volumes, numbers and pages of the journals) or places of publication must be indicated.
         iii. Components of a dissertation may be separately published in units of division (volumes, chapters, etc.) or in sub-themes of the research content; in this case, the mode and the date of each publication must be indicated.
         iv. Theses may be considered as published when other papers with identical content are published by the same authors; in this case, the mode and the date of each publication must be indicated. For unpublished papers, the scheduled mode and date of publication must be indicated.
   (3) Reference Papers
         i. Indicate the title, author(s), and mode and date of publication of a paper single- or co-authored by the degree applicant that deals with a subject that is different from that of the degree dissertation and is particularly important as reference, if any.
         ii. Make a list of reference theses, if there are two or more of them.

iii. Enter “none” if there are no reference theses.

6. Summary of Dissertation

Summary of Dissertation should be written in English and within 1,500 words.

7. Resume

(1) Format

Use Attached Form 4.

(2) Registry Address

Degree applicants of Japanese nationality must enter their prefecture’s name only; those of other nationalities must enter their country’s name.

(3) Current Address

(A) Enter the address as it appears on your residence certificate.

(B) Enter also the building name, apartment name, number, etc. for assured communication.

(C) Degree applicants who plan to stay overseas for an extended period of time following the submission of Dissertation must also enter their overseas address.

(4) Name

If your name is written in Chinese ideograms (kanji), indicate its reading in kana.

(5) Academic Background

(A) Enter chronologically the educational institutions attended, starting with graduation from secondary school.

(B) If you withdrew from a doctoral course after completing the coursework, attach a certificate of acquisition of credits in a postgraduate program.

(C) Indicate the change of name of a school during your enrollment, if any.

(D) Enter only the educational programs you pursued at institutions of formal education; years spent at an educational institution as a research fellow, etc. must be entered under “Research background.”

(6) Professional Career

List chronologically all the posts of full-time employment you assumed, with each employer’s name and job title. It is desirable that part-time posts are also listed if they are related to education and research.

(7) Research Background

(A) List the research activities undertaken that are noteworthy in connection with the envisaged academic degree, and do so chronologically and according to items.

(B) Information on noteworthy academic research activities expected in this column includes the following (examples):

i. Research projects (including joint projects) related to your doctoral research theme

ii. Training programs (including those pursued as a research fellow at a university)

iii. Academic surveys and investigations

iv. Publications and presentations (books, papers, etc.)

v. Activities involving scholarships and grants

vi. Activities involving academic societies

vii. Others that may be of significance in connection with the envisaged academic degree

(C) Entries entered under “Academic background” or “Professional career” should not be double-entered under “Research background.”

8. Reference Papers

Reference Papers need to be bound together with Dissertation.

9. Doctoral Dissertation Submission and Publication Confirmation (application)

Use the designated format. The Confirmer (main supervisor) confirms with the plagiarism check software “ iThenticate”, describes the check etc. in the corresponding column of the form, and attaches a copy of the confirmation result screen.

10. Electronic data of Dissertation and Summary of Dissertation

Submit Dissertation and summary in the form of a PDF file. (PDF/A [ISO19005] is recommended.)

11. Letter of Consent

Use the designated form. A letter of consent must be signed by all the co-authors or by the

representative of the co-authors.

12. Other Documents Designated by the Relevant Diploma Program
If there are any other documents designated by the relevant diploma program, submit them.

【記載例 Sample】

第３号様式

ここに記載してある氏名表記を学位記の氏名欄に使用する。
The name written here is used for the name on your diploma.

押印してください。
印鑑がない場合は，サイン（署名）。
Seal here.
If you don't have a seal, sign here.

論　　文　　目　　録

Applicant Name　氏　名　広大　学　　印

論　文

Title of your Doctoral

題　目　A Study on the Flow Field and Combustion Characteristics in a Swirl Type Combustor
（旋回流燃焼器内の流動と燃焼特性に関する研究）

外国語の場合は和訳，日本語の場合は英訳を付記する。
An English title should have a Japanese translation. A Japanese title should have an English translation.

Method and Term of Publication

公表の方法及び時期

１．第２章　旋回流の流動予測
日本〇〇学会誌第２巻１０号１０頁～１５頁　20XX 年 9 月 23 日　発行

２．第３章　旋回流燃焼機内の燃焼特性
〇〇学会論文集５巻６号　20XX 年 12 月発行予定

３．Chapter 4　Analysis of Combustion Characteristics
Journal of 〇〇〇〇 Vol.5, No.3, pp.666-670　20XX 年 7 月 11 日　発行

４．Chapter 5　Analysis of Flow Filed in a Swirl Type Combustor
International Journal of 〇〇〇 Vol.2　20XX 年 12 月発行予定

学位請求論文の目次の題目を記入する。公表した論文の題目は記入しない。
Write the chapter's title of your Doctoral Dissertation. Don't write the title of your published paper.

Number of your Doctoral

冊数　１　冊

Reference

参考論文

な　し

ない場合は，「なし」と記入する。
学位論文の内容以外の公表論文のうち，特に参考になる自著及び共著の論文があれば，次のことを記載する。
・題目　・著者名　・公表の方法及び時期
If you don't submit a Reference Dissertation, write "なし" (nothing) here.
If you have some special papers written by yourself or joint papers among your published papers whose contents differ from your Doctoral Dissertation, write the following items:
*Title *Author's Name *Method of publication and Date of Publication

論　文　の　要　旨

Title of your Doctoral

題　目　A Study on the Flow Field and Combustion Characteristics in a Swirl Type Combustor
（旋回流燃焼器内の流動と燃焼特性に関する研究）

論文目録（第 3 号様式）に記載した題目と全く同じ題目を記載する。
You must write the same title of your Doctoral Dissertation as the title on the Dissertation List (Form No. 3).

Applicant Name

氏　名　広　大　学

A4 版，横書きとし，4,000 字以内で作成し，片面印刷する。（複数ページになっても構わない。）
One-sided printing less than 4000 Japanese characters on A4 size paper. (More than 2 pages is no problem.)

第４号様式

履　　歴　　書

氏名は，論文目録（第３号様式）に記載したものと全く同じ表記で記載する。
氏名にはふりがなを付ける。You must write your entire name as it appears on the Dissertation List (Form No.3) with *Furigana*.

該当の性別を〇で囲む。
Choose appropriate sex and encircle it.

氏　名 Applicant Name	ひろ　だい　まなぶ 広　大　　学　　（男）・女
生年月日 Date of Birth	平成〇〇年１１月　６日
本　　籍 Nationality	広島県
現　住　所 Present Address	〒７３９－８５２４ 広島県東広島市鏡山一丁目４－１ 〇〇〇ハイツ　Ｂ棟 201 号室 TEL　〇〇

日本籍の者は，元号で記入。
外国籍の者は，西暦で記入。
If you are Japanese, write in the Japanese era name.
If you aren't Japanese, write in the dominical year.

日本籍の者は，本籍の県名を記入。
外国籍の者は，出身国名を記入。
If you are Japanese, write your prefecture of registry.
If you aren't Japanese, write you home country.

旧制の卒業生は，中等学校卒業から記載。
If you are an old-education-system middle school graduate, include education from middle school (only for Japanese).

学　　歴　Academic Background	
平成〇〇年３月	広島県立ひろしま高等学校　卒業　（High School Level）
平成〇〇年４月 平成〇〇年３月	広島大学〇〇学部第〇類　入学 同上　卒業　（Undergraduate Level）
平成〇〇年４月１日 平成〇〇年３月〇日	〇〇大学大学院〇〇研究科博士課程前期〇〇専攻　入学 同上　修了　（Master's Course）
令和〇〇年４月１日	広島大学大学院先進理工系科学研究科博士課程後期先進理工系科学専攻　入学（進学） 現在に至る　（Doctoral Course）

職　　歴　Professional Career	
平成〇〇年４月〇日	日本工業（株）　採用
令和〇〇年９月〇日	同上　設計課に配置換　　現在に至る

常勤の職について，年次を追って勤務先，職名等を付し，退職等についても記載する。現職の場合，「現在に至る」と明示する。
Write your places of employment and job titles year by year, including resignation if any. If you are in employment, write also "現在に至る" (Hitherto).

研究歴　Research Background	
平成〇〇年〇月〇日	〇〇〇〇の研究に従事し現在に至る。

先進理工系科学研究科での研究は記載しない
Include your research background except the research at the Graduate School of Advanced Science and Engineering, Hiroshima University.

賞　罰　Prize and Penalty

なし

ない場合は「なし」と記入する。
If you have not received a prize or penalty, write "なし"(Nothing)　here.

上記のとおり違いありません。

令和〇〇年〇月〇〇日

氏　　名　　広　大　　学　　印
Applicant Name

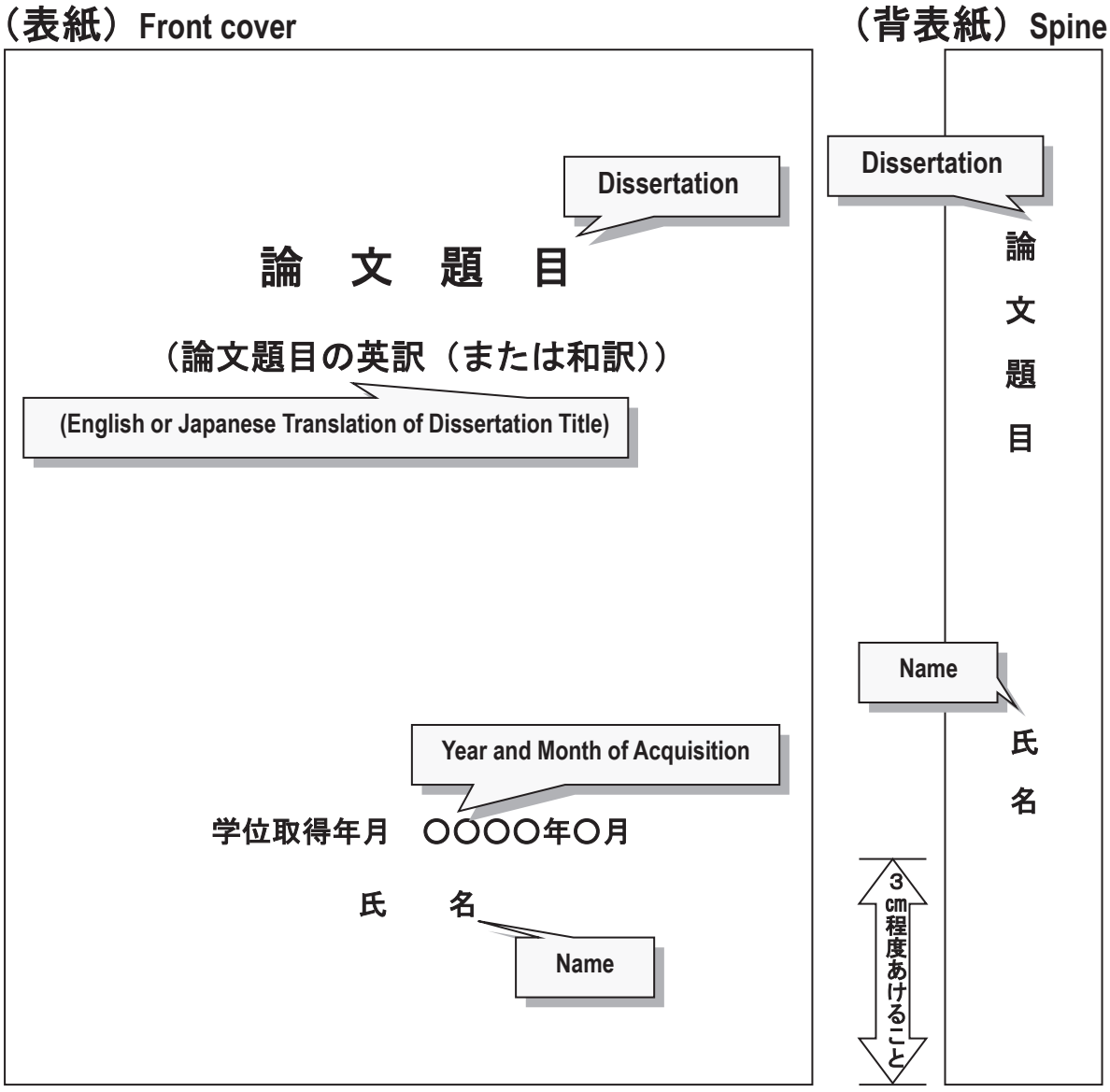
押印してください。
印鑑がない場合は，サイン（署名）。
Seal here.
If you don't have a seal, sign here.

学位論文の表紙
Front Cover of Your Doctoral Dissertation

※　最終的に提出する学位論文の表紙は，次のことに留意して作成すること。
Pay attention to the following when preparing your final doctoral Dissertation.

（1）表紙には学位論文題目，学位取得年月及び氏名を記載し，背表紙には学位論文題目及び氏名を記載すること。
The front cover must have the Dissertation title, the year and month of acquisition, and your name. The spine must have the Dissertation title and your name.

（2）学位論文題目は，学位申請時に届け出たものと全く同一の表記を記載すること。
（和題・英題ともに記載し，英題の大文字小文字の別も学位申請時の届け出と同一にすること。）
The Dissertation title on the front cover and spine must be the same as the title which you applied under.
(The English and Japanese titles must be printed on the cover. The titles must be exactly the same as the titles which you applied under, including the exact same lowercase letters and uppercase letters of the English title.)



Specified Forms for Doctoral Course

研　究　題　目　届　（D）

Notification of the Research Title

Year　Month　Date
年　月　日　提出

学生番号 Student ID Number	D	プログラム名 Program	
ふりがな 氏　名 Katakana Name			
研究題目 （英語の場合は，和訳を付すこと。） Research Title (Japanese Title)			
取得済み教員免許状			
取得予定の教員免許状			

※指導教員と相談の上，記入すること。Please fill in after consulting with your academic advisor.

＜以下は主指導教員が記入＞ The followings are written by supervisor.

指　導　教　員　氏　名

主指導教員氏名：

研究指導計画を策定し副指導教員と共有して学生に明示　□

主指導教員と同じ専門分野の副指導教員	氏　名： ﾌﾟﾛｸﾞﾗﾑ：
	氏　名： ﾌﾟﾛｸﾞﾗﾑ：
	氏　名： ﾌﾟﾛｸﾞﾗﾑ：
主指導教員と異なる専門分野の副指導教員	氏　名： ﾌﾟﾛｸﾞﾗﾑ： 専門分野：
	氏　名： ﾌﾟﾛｸﾞﾗﾑ： 専門分野：
	氏　名： ﾌﾟﾛｸﾞﾗﾑ： 専門分野：

※副指導教員は 2 人以上とし，うち 1 人は主指導教員と異なる専門分野の教員とする。（他研究科又は他大学の教員も可能とする。）

※研究指導計画は，依頼があれば直ちに提出すること。

研 究 計 画 概 要
Outline of Research Plan

学 生 番 号 Student ID Number	D	プログラム Program	
氏 名 Name			
研 究 題 目 Research Title			
研 究 計 画 概 要 Outline of Research Plan			

上記のとおり提出します。
I hereby submit as above.
広島大学大学院先進理工系科学研究科長 殿
To: The Dean of the Graduate School of Advanced Science and Engineering

年 / 月 / 日
Year / Month / Day

学生番号:D
Student ID Number

学生氏名:
Name

主指導教員氏名:
Main Supervisor

副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:
副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名: 氏名:

博 士 論 文 概 要
Outline of the Doctoral Dissertation

学 生 番 号 Student ID Number	D	プログラム Program	
氏 名 Name			
論 文 題 目 Dissertation Title			
論 文 概 要 Dissertation Outline	**＊字数は 800 字程度（日本語）又は 300 語程度（英語）とし，研究目的・方法・結果・考察（結論）を記載してください。** Please describe your research purpose, method, results, and discussion (conclusion) in about 800 characters (Japanese) or about 300 words (English).		

上記のとおり提出します。
I hereby submit as above.

広島大学大学院先進理工系科学研究科長 殿
To: The Dean of the Graduate School of Advanced Science and Engineering

年 月 日
Year / Month / Day

学生番号：D
Student ID Number

学生氏名：
Name

主指導教員氏名：
Main Supervisor

副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名： 氏名：	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名： 氏名：
副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名： 氏名：	副 指 導 教 員 Sub Supervisor	ﾌﾟﾛｸﾞﾗﾑ名： 氏名：

提出日：　　年　　月　　日
Submission Date:　yy,　mm,　dd

博士論文予備審査願
Application for Preliminary Screening of Doctoral Dissertation

学生番号 Student ID No.		プログラム Program	
氏名 Name			
論文題目 Dissertation Title			
学位の種類 Degree Type	博士（　　） Doctor of (　　)	※裏面「取得できる学位」参照 Refer to “Degrees That Can Be Earned” on the backside.	

論文数
No. of Dissertation

分類 Category	博士論文と関係があるもの Relevant to the Doctoral Dissertation	関係ないもの Irrelevant
論文（査読あり） Dissertations (peer-reviewed)	（　　）	（　　）
論文（査読なし） Dissertations (not peer-reviewed)	（　　）	（　　）
書籍 Books	（　　）	（　　）
その他 Others	（　　）	（　　）

（　）内は，筆頭著者の論文数を内数で示す。
In the parentheses, indicate the number of works of first authorship.

予備審査会（主指導教員において記入すること）
Preliminary Screening Session (To Be Entered by the Supervisor)

予備審査委員 主査 Preliminary Screening Committee Chief Referee			
予備審査委員 副査 Preliminary Screening Committee Sub-referees	ﾌﾟﾛｸﾞﾗﾑ名： Program 氏名： Name		ﾌﾟﾛｸﾞﾗﾑ名： Program 氏名： Name
	ﾌﾟﾛｸﾞﾗﾑ名： Program 氏名： Name		ﾌﾟﾛｸﾞﾗﾑ名： Program 氏名： Name
予備審査会 Preliminary Screening Session	日時 Date	年　月　日（　）　AM/PM　～ yy,　mm,　dd	
	場所 Venue		

（備考）取得できる学位

Remark; Degrees That Can Be Earned

プログラム Program	学位 Degree
数学プログラム Mathematics Program	博士（理学） Doctor of Philosophy in Science
物理学プログラム Physics Program	博士（理学） Doctor of Philosophy in Science
地球惑星システム学プログラム Earth and Planetary Systems Science Program	博士（理学） Doctor of Philosophy in Science
化学プログラム Chemistry Program	博士（理学） Doctor of Philosophy in Science
応用化学プログラム Applied Chemistry Program	博士（工学） Doctor of Philosophy in Engineering
化学工学プログラム Chemical Engineering Program	博士（工学） Doctor of Philosophy in Engineering
電気システム制御プログラム Electrical, Systems, and Control Engineering Program	博士（工学） Doctor of Philosophy in Engineering
機械工学プログラム Mechanical Engineering Program	博士（工学） Doctor of Philosophy in Engineering
輸送・環境システムプログラム Transportation and Environmental Systems Program	博士（工学） Doctor of Philosophy in Engineering
建築学プログラム Architecture Program	博士（工学） Doctor of Philosophy in Engineering
社会基盤環境工学プログラム Civil and Environmental Engineering Program	博士（工学） Doctor of Philosophy in Engineering
情報科学プログラム Informatics and Data Science Program	博士（情報科学） Doctor of Philosophy in Informatics and Data Science
スマートイノベーションプログラム Smart Innovation Program	博士（工学） Doctor of Philosophy in Engineering
量子物質科学プログラム Quantum Matter Program	博士（理学） Doctor of Philosophy in Science 博士（工学） Doctor of Philosophy in Engineering 博士（学術） Doctor of Philosophy
理工学融合プログラム Transdisciplinary Science and Engineering Program	博士（理学） Doctor of Philosophy in Science 博士（工学） Doctor of Philosophy in Engineering 博士（学術） Doctor of Philosophy 博士（国際協力学） Doctor of Philosophy in International Cooperation Studies

Contact Information

<table>
<tr><th>Division</th><th>Program</th><th>Contact</th></tr>
<tr><td rowspan="15">Division of Advanced Science and Engineering</td><td>Mathematics Program</td><td rowspan="4">Support Office for the fields of Science
739-8526
1-3-1 Kagamiyama, Higashi-Hiroshima
Tel: 082-424-7309, 4468
e-mail: ri-gaku-sien@office.hiroshima-u.ac.jp</td></tr>
<tr><td>Physics Program</td></tr>
<tr><td>Earth and Planetary Systems Science Program</td></tr>
<tr><td>Chemistry Program</td></tr>
<tr><td>Applied Chemistry Program</td><td rowspan="10">Support Office for the fields of Engineering
739-8527
1-4-1 Kagamiyama, Higashi-Hiroshima
Tel: 082-424-7518, 7587
e-mail: kou-gaku-daigakuin@office.hiroshima-u.ac.jp</td></tr>
<tr><td>Chemical Engineering Program</td></tr>
<tr><td>Electrical, Systems, and Control Engineering Program</td></tr>
<tr><td>Mechanical Engineering Program</td></tr>
<tr><td>Transportation and Environmental Systems Program</td></tr>
<tr><td>Architecture Program</td></tr>
<tr><td>Civil and Environmental Engineering Program</td></tr>
<tr><td>Informatics and Data Science Program</td></tr>
<tr><td>Smart Innovation Program</td></tr>
<tr><td>Quantum Matter Program</td><td>Support Office for the fields of Science (AdSM)
739-8530
1-3-1 Kagamiyama, Higashi-Hiroshima
Tel: 082-424-7008, 7009
e-mail: sentan-gaku-sien@office.hiroshima-u.ac.jp</td></tr>
<tr><td>Transdisciplinary Science and Engineering Program
（Environmental and Natural Sciences）</td><td>Support Office for the fields of Integrated Arts and Sciences
739-8521
1-7-1 Kagamiyama, Higashi-Hiroshima
Tel: 082-424-6317, 6316
e-mail: souka-gaku-sien@office.hiroshima-u.ac.jp</td></tr>
<tr><td>Transdisciplinary Science and Engineering Program
（Development Science）</td><td rowspan="2">Support Office for the fields of International Development and Cooperation
739-8529
1-5-1 Kagamiyama, Higashi-Hiroshima
Tel: 082-424-4680
e-mail: koku-gaku@office.hiroshima-u.ac.jp</td></tr>
<tr><td colspan="2">Joint International Master's Programme in Sustainable Development (Hiroshima University and Leipzig University)</td></tr>
</table>