

Educational Philosophy and Objectives of the Graduate School of Integrated Science and Technology

Educational Philosophy

By bringing together technologies and knowledge from engineering, chemistry, fisheries science, environmental science, and information and data science, the Graduate School contributes to technological innovation and the building of a sustainable society grounded in regional development through initiatives such as the development of renewable energy, the advancement of water environment technologies, national resilience and disaster mitigation in harmony with the environment, and the utilization of fisheries resources. Toward the realization of a carbon-circulating society, it creates cutting-edge technologies and fosters researchers and highly skilled professionals capable of addressing critical global challenges.

Objectives

Under the guidance of specialists in diverse fields, students acquire cutting-edge technologies and academic knowledge while studying advanced specialized fields, including those beyond their own disciplines. Through this process, the Graduate School aims to cultivate students' abilities to contribute to the resolution of a wide range of complex issues.

Educational Philosophy and Objectives of the Department of Integrated Science and Technology (Five-Year Integrated Doctoral Program)

○Program for Advanced Green Sustainable Science and Technology

The educational goal of the Program for Advanced Green Sustainable Science and Technology is to foster researchers and highly skilled professionals who can contribute to carbon neutrality by creating new technologies and knowledge for building a sustainable society and conserving the global environment, promoting world-leading advanced technologies toward the realization of a decarbonized society, strengthening international collaboration with overseas universities, and enabling safe and well-coordinated human activities on Earth.

Diploma Policy of the Department of Integrated Science and Technology (Five-Year Integrated Doctoral Program)

A doctoral degree, namely Doctor of Philosophy in Engineering, Doctor of Philosophy in Fisheries Science, Doctor of Philosophy in Environmental Science, or Doctor of Philosophy in Information and Data Science, shall be conferred upon students who have been enrolled for at least five years, have earned the credits prescribed in the designated educational program (45 credits or more), have acquired the following abilities, and whose submitted doctoral dissertation has satisfied the degree review criteria and who have passed the final examination.

1. Students have acquired advanced specialized and interdisciplinary knowledge related to Advanced Green Sustainable Science and Technology, and their specialized knowledge has reached a level that enables them to write a review article providing a comprehensive overview of domestic and international research.
2. Students have acquired the ability to independently promote creative and leading research based on an international perspective.
3. Students have acquired a level of research ethics, English communication skills, presentation skills for delivering oral presentations at international conferences, and English academic writing skills that enables them to begin their careers as internationally oriented researchers.

Curriculum Policy of the Department of Integrated Science and Technology (Five-Year Integrated Doctoral Program)

In accordance with Nagasaki University's Curriculum Policy, the Five-Year Integrated Doctoral Program in Integrated Science and Technology organizes and implements its curriculum so that students can study systematically and independently. Through continuous and systematic guidance based on a five-year integrated curriculum, the Program cultivates the abilities required of researchers who can play an active role in international academia after completion of the Program, as described below.

1. Through Researcher Training Courses and International Practical Courses, students acquire creative and leading practical research abilities required of researchers who can play an active role in international academia. These abilities include world-class research ethics, the ability to identify and explore issues from a global perspective, and research and management skills. Students also acquire English communication skills, English academic writing skills, English presentation skills, and practical abilities as international researchers. For this purpose, students are required, in Special Seminars, to

write and present a review article providing a comprehensive overview of domestic and international research. In Off-Campus Research and Practical Training, students are required to conduct research at an international research institution, such as an overseas university.

2. Through Advanced Basic Courses and Advanced Technology Courses, students cultivate a high level of fundamental academic ability necessary to acquire knowledge of advanced green sustainable science and technology across a wide range of fields from a broad, comprehensive perspective.
3. Through Comprehensive Seminar, Special Research, Collaborative Study Course Cluster, and Internship undertaken during the two-year period equivalent to a master's program, students develop an awareness of the relationship between academic study and society, broaden their perspectives across the diverse fields of integrated science and technology, and acquire, alongside their research activities, the fundamental capabilities needed to develop into independent researchers.
4. In Special Lectures, the Program provides research seminars by distinguished or emerging researchers from Japan and abroad, as well as industry-academia collaborative lectures delivered by multiple faculty members, including lecturers from industry. Through these lectures, students acquire interdisciplinary knowledge.

Admission Policy of the Department of Integrated Science and Technology (Five-Year Integrated Doctoral Program)

Applicants are expected to possess the following academic knowledge and abilities, qualities, and aptitudes.

1. Applicants should have a high level of fundamental academic ability in at least one of the following fields: engineering, fisheries science, environmental science, or information and data science.
2. Applicants should have the willingness to contribute to the development of a sustainable society that coexists with nature toward the realization of a decarbonized society.
3. Applicants should have the willingness to create cutting-edge technologies in areas such as energy, resources, and the development of new materials.
4. Applicants should have the willingness to solve issues involving the interrelationship between the Earth and human society, such as global warming, food issues, and resource depletion.

5. Applicants should have a strong willingness to play an active role internationally and to acquire the ability to identify and explore issues, as well as research planning and management skills.