

Diploma Policy (Policy on Approving Graduation and Granting Diplomas)

By the time of graduation (receiving diplomas), all students enrolled in the School of Interdisciplinary Science and Innovation are expected to develop the following four types of skills.

1. Active learning skills: Rather than selecting subjects to take from the viewpoint of their specialty, students should select subjects driven by their own aspiration and interest.
2. Creative task-framing skills: Students should develop ability to frame tasks appropriately for addressing real-world problems and seek their solutions by combining existing academic knowledge.
3. Collaboration skills: Students should develop skills to discuss with others' solutions to problems they have conceived, and create feasible solutions by combining the knowledge and skills of others as well.
4. International communication skills: Students should develop communication skills to explain solutions and gain other people's understanding and support for carrying out the solutions.

At the School of Interdisciplinary Science and Innovation, the overall skill to be acquired through developing these four types of skills are called problem solving skills of Interdisciplinary Science and Innovation Students are expected to acquire this skill through the four-year educational programs at the school, and eventually to become leading actors in addressing global challenges in the areas of business, professional, and research activities.

Curriculum Policy (Policy of Preparing and Implementing Curricula)

The School of Interdisciplinary Science and Innovation seeks to develop students' skills described in the Diploma Policy: active learning skills, solution conceptualization skills, collaboration skills, international communication skills, and interdisciplinary task-resolving skills, the latter being acquired through developing the four types of skills mentioned above. To this end, the school has adopted the curriculum policy, study methods, and performance evaluation methods described below.

1. Active learning skills

KIKAN Education Subjects are provided to develop active learners who continue to study and who have both challenging spirit and ability to take action to address various challenges,

both known and unknown to them. The KIKAN Education Subjects are designed to develop a way of observing, thinking, and learning.

The acquisition of active learning skills is evaluated based on students' performances in relevant subjects.

2. Solution conceptualization skills

Skills to find a theme to address actual problems and to seek solutions by combining existing academic knowledge will be cultivated in the following process: students initially develop their basic skills by learning Common Basic Subjects provided from the second half of the 1st year to the 2nd year, and then by taking Reflective Subjects provided in and after the 2nd year to teach diverse academic approaches to solving problems.

The School of Interdisciplinary Science and Innovation has adopted "Earth Sustainability" as the common theme for the school. In consideration of the differences in global and human challenges, the school has further adopted the following four areas of the theme: "Humans and Life" Area, "People and Society" Area, "States and Regions" Area, and "Earth and Environment" Area.

Area Basic Subjects (Reflective Subjects) are designed to cultivate basic knowledge of respective areas. Cross-Area Subjects (Reflective Subjects) are designed to cultivate knowledge across the four areas and borders of individual areas. Area Advanced Subjects (Interdisciplinary Science and Innovation Subjects) are designed to cultivate specialized and practical knowledge unique to respective areas.

The acquisition of solution conceptualization skills is evaluated based on students' performances of relevant subjects.

3. Collaboration skills

Collaboration skills or skills to discuss with others solutions to problems that students have conceived, and to seek feasible solutions by collaborating with others, are developed based on the skills cultivated by learning KIKAN Education Subjects. Students develop these skills by learning Collaborative Subjects, designed to build their capacity by addressing through teamwork complex problems that encompass various realms by applying TBL/PBL, while making use of individual knowledge and areas of strength.

The acquisition of collaboration skills is evaluated based on students' performances in relevant subjects.

4. International communication skills

Skills to explain solutions they have conceived and to gain other people's understanding and

support for carrying out the solutions, is obtained based on the skills acquired by learning KIKAN Education Subjects. Students then develop their skills by learning Collaborative Subjects and Experiential Subjects, both designed to develop linguistic and communication skills. At the same time, through various experiences, students are expected to learn the existence of different historic and cultural backgrounds and diverse values. In Experiential Subjects, Japanese students are required to study abroad for a specified period, while international students are required to participate in internships at Japanese companies.

The acquisition of international communication skills is evaluated based on students' performances of relevant subjects.

5. Interdisciplinary task-resolving skills

Students should develop interdisciplinary task-resolving skills, or skills to organically and optimally link various discipline-based methodologies and to address problems through teamwork in an interdisciplinary way, by studying Degree Projects (Interdisciplinary Science and Innovation Subjects). The Degree Projects are designed to cultivate students ability to develop solutions to the problem selected by themselves by combining knowledge and findings they have gained by that time.

The acquisition of interdisciplinary task-resolving skills is evaluated based on students' performances in relevant subjects.

Admission Policy

1. The Educational Aims of the School of Interdisciplinary Science and Innovation

Humankind is now faced with an era filled with unprecedented changes. These come from the breakneck pace of the progress of scientific technology, the influences of globalization, and the shifts in the very way of being—of life and society, state and region, and the environment of the planet—all of which include the way of being of people. While these changes pave the way for trailblazing endeavors—like artificial intelligence and the internet of things—they have also given rise to problems: large-scale planetary changes, the loss of biodiversity, the clash of religions and ethnic groups, terrorism, border transgressions, growing poverty and inequality, lack of energy sources and food sources, et cetera. Because the causes of most of these problems are complexly intertwined, it is next to impossible to solve them merely through one of the existing fields of academia. Now more than ever, we need to find the right combinations of the academic knowledge we have built up throughout history, and use these to address problems and pave the way for a new future.

The School of Interdisciplinary Science and Innovation aims to cultivate in students the drive to grapple with these problems of contemporary society and the ability to contribute to their solution. The department aims to develop the following four abilities in each and every student:

1. Active Learning—the ability to choose what to learn on the basis of one’s own objectives, rather than a more specialization-centered approach of choosing what to do on the basis of what one has learned
2. Problem Setting—the ability to set appropriate tasks in response to the problems at hand, and seek out solutions that combine different forms of academic knowledge
3. Collaborative Action— the ability to discuss with others about the solutions one has planned, incorporate the ideas and abilities of others, and creatively construct realistic solutions that are carried out with others
4. Global Communication—the ability to explain one’s solutions and gain the understanding and support of a wide variety of people

Here at the School of Interdisciplinary Science and Innovation, we refer to the ability to solve problems using these four traits as the power for “Co-Creative Problem Solving.” Having learned this through four years of undergraduate education, we expect that graduates will participate in global problem solving.

2. The Ideal Student (Desired Abilities and Attitudes)

In accordance with the aims above, the School of Interdisciplinary Science and Innovation is eager to accept students from Japan and abroad who have the following skills, abilities, and attitudes:

First, applicants should have a strong sense of autonomous subjectivity. This is an independent attitude where students determine for themselves a theme for creative learning, and then seek out the concrete knowledge and useful skills needed for this theme, without being constrained by the boundaries of existing academic fields.

From the point of view of “autonomous subjectivity,” what is important is not merely fulfilling tasks one has been assigned, but rather finding and engaging in tasks that are important to the problem one is concerned with. For example, global environmental problems are related not only to nature but to the very activities of humankind. To find the root of these issues, one would need to understand not only the sciences but also fields like politics and

economics. In studying, one should not take a mindset of, “Well, I’m a science/humanities major…” Rather, we want applicants who will take a stand on the basis of the problems they are interested in, and pursue their everyday studies from there.

Second, applicants should have the ability to learn collaboratively. This means possessing superior qualities and a wealth of experience in scientific inquiry and social involvement, thus being able to cooperate with others in various endeavors.

From the point of view of “collaborative learning,” it is crucial that applicants participate actively in the curricular and extra-curricular activities in their high schools, reflect on these experiences, and try to build on them. The global issues we tackle at the School of Interdisciplinary Science and Innovation are complexly interlinked, and it is essential that applicants be able to cooperate with different kinds of people in order to solve these issues. One needs to broaden one’s intellectual horizons in order to be able to exchange information with others. At the same time, one needs to deepen one’s own field of specialization in order to contribute to the team. Furthermore, one needs to approach each day with a conscious effort to integrate what one has learned independently into the team effort, in order to solve shared problems.

Third, applicants should have the ability to think multi-dimensionally. This means being able to broadly learn the basics and applications of various academic fields, and critically apply and integrate this knowledge in order to solve complex social issues at a high level.

From the point of view of “multi-dimensional thinking,” what matters is the ability to take not one approach, but a variety of angles and points of view toward the problem one is faced with, in order to discover novel ways to unravel the issue. The foundations of this ability lie in the broad range of basic knowledge, mathematical ability, reading ability, and powers of expression one learns in one’s high school curriculum. We are looking for applicants who can and are eager to take this basic academic ability and use it to find issues one needs to address in the world today, seek out the origins of these issues, and solve these using a wide variety of knowledge.