HOKKAIDO UNIVERSITY

ISP

Integrated Science Program

The Integrated Science Program at Hokkaido University
provides students with a wide scientific knowledge,
and is taught in English to prepare graduates for professional
careers on an international scale.

北海道大学
HOKKAIDO UNIVERSITY

HOKKAIDO UNIVERSITY
ISP
Integrated Science Program

Program Details

The Integrated Science Program is a cross-disciplinary science program for international students interested in pursuing a degree in the sciences at the undergraduate and graduate level. The program's strong cross-disciplinary nature aims to give students an excellent broad scientific education across the core scientific disciplines (physics, chemistry, and biology), while allowing them to specialize in their chosen fields in later years in accordance with their own interests. In addition to the English-based scientific content of the program, a multitude of additional liberal arts courses focusing on business, leadership and management skills, and the Japanese language will be available to ensure students receive a rich and fulfilling education while at Hokkaido University.

Key Characteristics

Study at one of Japan's oldest and most prestigious universities

Courses taught by a diverse international faculty in English

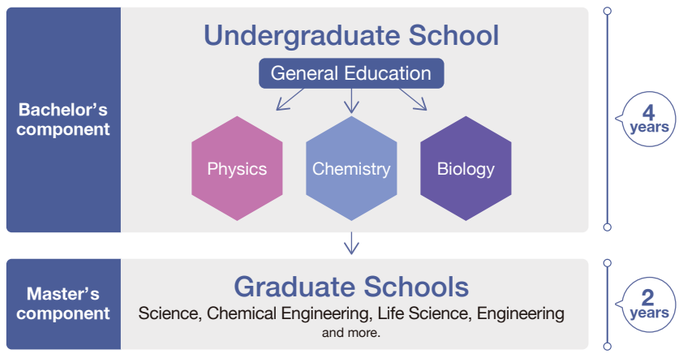
A range of scholarships available

ISP at a Glance

Degrees Offered	Bachelor's Degree (Science) Master's Degree (In your chosen specialized field)
Program Length	4 years (Bachelor's) + 2 years (Master's)

Course Structure

The ISP consists of a four-year Bachelor's degree and a two-year Master's degree. For the first six months of the Bachelor's component, the students take courses in natural science, liberal arts and Japanese. After that, they will start obtaining more specialized knowledge and practical skills in their chosen fields (physics, chemistry or biology). The Master's degree will include active research components, where students will be affiliated with one of the university's prestigious graduate schools to learn the techniques and skills necessary to flourish as scientists or researchers.



We have an early graduation system that reduces the length of the Bachelor's component to 3.5 years for those who fulfill the requirements.

ISP SCHOLARSHIPS AND FEES

We offer a scholarship program for students participating in the Integrated Science Program.

Enrollment fee	We will waive the entire enrollment fee for the Bachelor's degree.
Tuition Fee	Tuition Fee for Bachelor's degree and Master's degree is ¥533,800 a year. We will waive the tuition fee for the 1st semester (the initial 6 months) of the Bachelor's degree. In the second semester and thereafter, selection will be made on an annual basis, and tuition fees for one year or half a year will be waived.

As of March 2024 | The information above is subject to change. This is applicable to those who enter ISP in October 2024.

Applicants We Are Seeking

The ISP is best suited for prospective students that exhibit:

- **A passion for studying a broad range of subjects across the natural sciences;**
- **An inclination to major in a discipline of the natural sciences (physics, chemistry or biology);**
- **Enthusiasm to live and study in a multicultural/multilingual environment;**
- **A drive to contribute to the wider global society by building a future career as an international specialist or researcher with a rich background knowledge based in the natural sciences.**

Application Qualifications and Requirements

- **Refer to the latest Application Guidelines on the "How to Apply" page in the ISP website. (https://www.oia.hokudai.ac.jp/isp/)**

Application Schedule

Nov.	Online Registration
Dec.	Deadline for Arrival of Recommendation Letter
Jan.	1st Stage Selection: Document Screening
Feb. ~Mar.	2nd Stage Selection: Online Interview
Mar.	Notification of Successful Applicants
Oct.	Enrollment

INTERNATIONAL STUDENT SUPPORT

International Student Support Desk

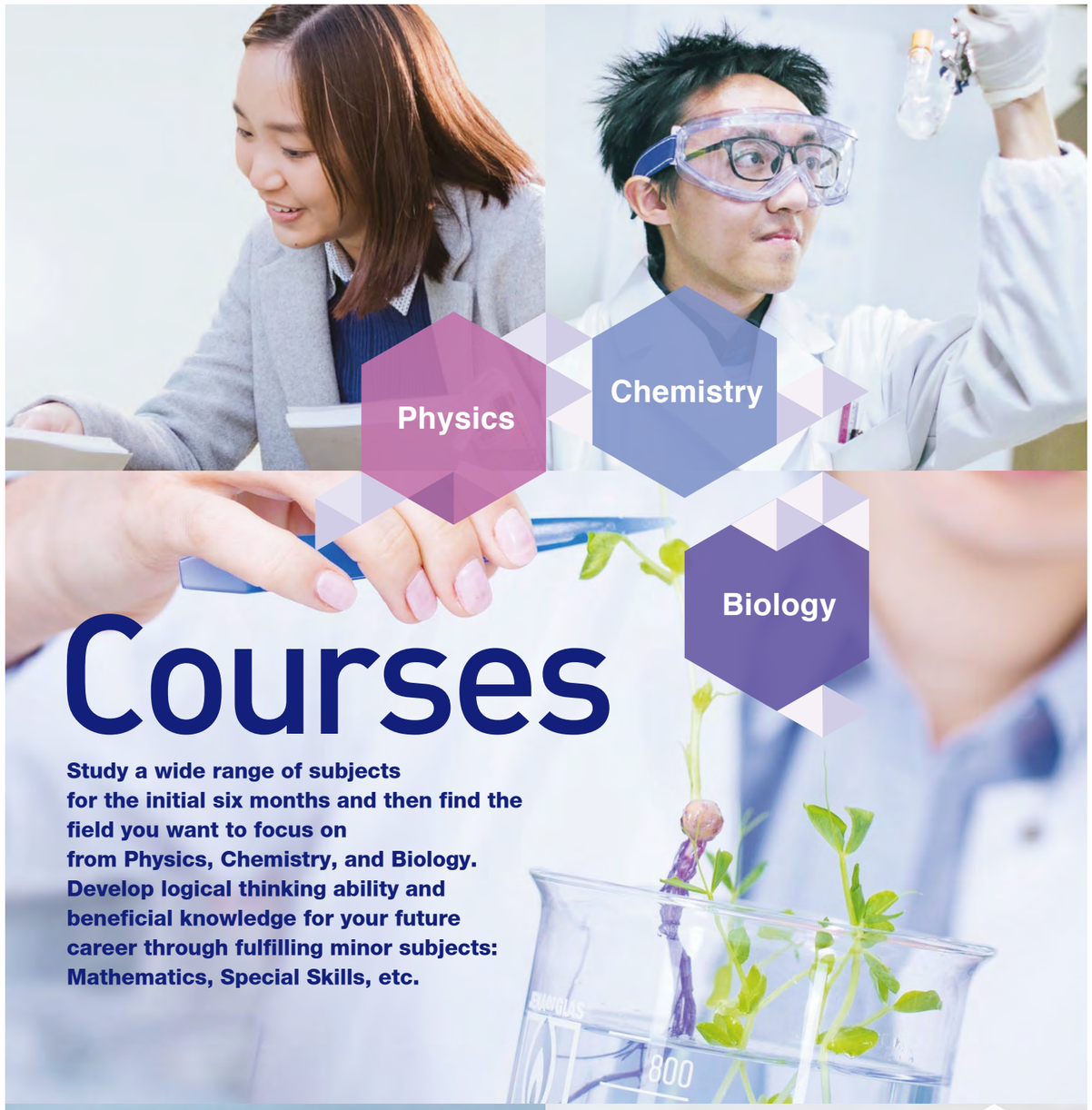
We provide a support desk staffed with international students. If, for example, you have trouble reading Japanese documents, or do not understand procedures at the ward office, the support desk is happy to help.

Counseling and Guidance

A bilingual counselor offers advice regarding difficulties you may have such as adjusting to life in Japan, academic studies, and career guidance for your future after university. Also, an international ISP faculty member is appointed as the home room teacher for successful applicants to liaise with them prior to arrival.

Accommodation

Rooms in university owned dormitories are offered to ISP students for the initial 6 months. These include social communal areas, kitchens and washing amenities. Although Sapporo is ranked as one of the most desirable cities in Japan to live in, the cost of living is especially low for a city of its size.



Courses

Study a wide range of subjects for the initial six months and then find the field you want to focus on from Physics, Chemistry, and Biology. Develop logical thinking ability and beneficial knowledge for your future career through fulfilling minor subjects: Mathematics, Special Skills, etc.

Physics

Integrated Science Program

Studying physics in ISP is a challenging but highly rewarding journey.

Subjects Offered

- Electromagnetism
- Quantum Mechanics
- Statistical Mechanics
- Introductory Complex Function / Introductory Fourier Analysis
- Modern Physics
- Introductory Data Analysis
- Introductory Computer Programming
- Classical Mechanics
- Laboratory Exercises
- Nuclear Physics
- Elementary Particle Physics
- Relativity
- Theory of Fields
- Astrophysics
- Condensed Matter Physics
- Research Work
- Special Lectures …, etc.

1 WEEK SCHEDULE

Fall-Winter semester 4th year

	MON	TUE	WED	THU	FRI
1			Astrophysics	Nuclear Physics	
2		Condensed Matter Physics Structure of Solids and group theory	Theory of Fields	Relativity	Graduation Research Meeting
3		Research Work in Physics II		Special Lecture on Quantum Mechanics Special functions	Laboratory Meeting and Seminar
4					
5					

ISP Specialized Subjects： Physics

*The subjects and the time table are just an example and subject to change.

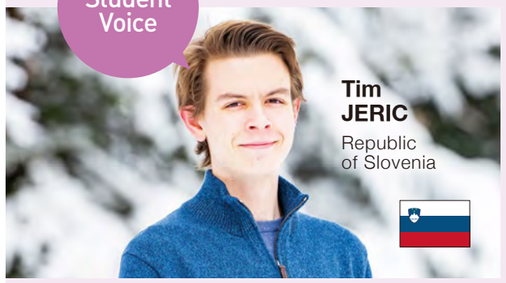
Faculty Members

Dragan SALAK

Welcome to the physics branch of ISP! After one semester of general education, students in our department begin a journey through the world of physics by studying the core subjects, such as mechanics, thermodynamics, and electromagnetism. These are the pillars of classical physics and studying them while developing the skills in high-level mathematics is essential to prepare for more advanced topics of quantum mechanics, statistical mechanics, and relativity. The journey then leads to even more exotic specialized subjects, such as the physics of atoms and subatomic particles, condensed matter physics, astrophysics and high energy physics theory and phenomenology (neutrinos, multi-messenger, dark matter, gravitational waves and colliders). The program is designed to equip students with a solid knowledge in physics, skills in critical thinking, and to prepare them for a variety of possible careers in academia and industry.

Arindam DAS

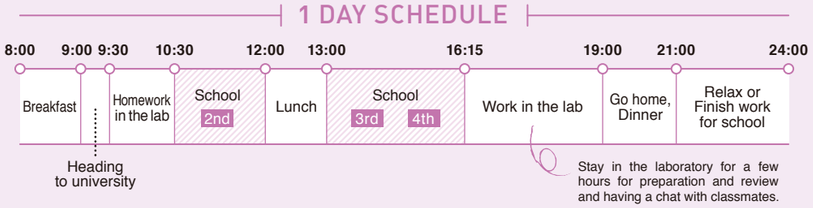
Student Voice



Understanding Science and Enjoying Hokkaido.

For as long as I can remember, I wanted to understand how the world works. In the ISP, I can study that while attending one of the most prestigious universities in Japan, while being able to enjoy the natural beauty of Hokkaido. I am most interested in particle physics and cosmology and the university provides many opportunities for me to learn more about the topics, from classes to special seminars, conducted by professors from other universities. While the program is conducted in English, I also have an opportunity to join lectures conducted in Japanese to broaden my knowledge and interact with Japanese students. There are many opportunities to make friends, both in the physics department and outside of it, so we can encourage each other and study together. Hokkaido also provides many opportunities for fun, both in summer and winter, with its vast natural beauty.

1 DAY SCHEDULE



I like to go cycling and as such, some of my favourite memories are from visiting places around Sapporo with my bicycle.

Chemistry

Integrated Science Program

Stand on our ISP stage to explore the Chemistry World.

Subjects Offered

- Physical Chemistry
- Organic Chemistry
- Inorganic Chemistry
- Analytical Chemistry
- Biological Chemistry
- Literature Survey
- Research Work
- Laboratory Work
- Practice in Computational Chemistry
- Special Lectures

…, etc.

1 WEEK SCHEDULE

Fall-Winter semester 2nd year

	MON	TUE	WED	THU	FRI
1	Statistical Mechanics I			Organic Chemistry B	Inorganic Chemistry B
2	Seminar in Statistical Mechanics I	Physical Chemistry B	Biodiversity Studies II	Biodiversity Studies III	
3	Laboratory Work in Chemistry A	Laboratory Work in Chemistry A	Laboratory Work in Chemistry A	Laboratory Work in Chemistry A	
4					
5	Elementary Japanese IV	Elementary Japanese IV	Elementary Japanese IV	Elementary Japanese IV	Elementary Japanese IV

ISP Common Courses： Physics Biology Liberal Arts

*The subjects and the time table are just an example and subject to change.

Faculty Members

Yu SUN

The ISP has general chemistry courses for the first-year students, opening the first door of the colorful world of chemistry. Common subjects such as Physical Chemistry, Organic Chemistry, Inorganic Chemistry and Analytical Chemistry offer whole spectrum of theories of chemistry from basic concepts to advanced skills. Laboratory Work in Chemistry is designed to reinforce the theories by realizing them in experiments. The Department of Chemistry also offers elective subjects for the comprehensive study in specific branches of chemistry. Our integrated-skill pedagogy aims for the stepping-up of the future careers in both academia and industry.

Fernando ARTEAGA ARTEAGA

Ruifeng ZHOU

Student Voice

Aituar TULIPKALIYEV

Kazakhstan

Experiencing the life and science in Japan with ISP.

The ISP provides an opportunity to combine science and Japanese language studies. From my teenage years, I began to get more and more interested in Japanese culture, in particular anime and Japanese music. Since then, I have dreamed of visiting Japan and the ISP gave me this opportunity. Most of the lessons in the ISP are taught in English, which is extremely unique to the Japanese Bachelor's degree. However, you will have to study hard to master the curriculum. If you are ready to challenge yourself, then the ISP program is for you!

1 DAY SCHEDULE

8:00 Breakfast

8:45 Preparation and Review at the University

10:30 School 2nd

12:00 Lunch

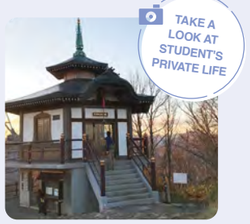
13:00 3rd School 4th 5th Enjoy Japanese lesson with classmates

18:00 Go home, Dinner

19:00 Homework

22:00 Personal time

23:00



TAKE A LOOK AT STUDENT'S PRIVATE LIFE

This picture of shrine was taken on the top of Mount Moiwa. Mount Moiwa is one of the most famous mountains in Sapporo.

Biology

Integrated Science Program

Biology is an interdisciplinary field, with many opportunities.

Subjects Offered

- Biodiversity Studies
- Cell Biology
- Functional Biology
- Readings of the Scientific Literature
- Systematics and Taxonomy
- Cell Function and Structure
- Behavioral Neurobiology
- Reproductive and Developmental Biology
- Environmental Biology
- Molecular Genetics
- Systematics and Evolution
- Brain, Behavior and Evolution
- Environmental Molecular Biology
- Biostatistics
- Biological Science Techniques
- Laboratory Courses: Systematic Botany, Systematic Zoology, Ecology, Genetics, Cell Structure and Function, Environmental Biology, Behavioral Neurobiology, Animal Development, Marine Biology, Phycology
- Ecological Surveys of Biodiversity in Forests
- Field Course in Marine Ecology

…, etc.

1 WEEK SCHEDULE

Fall-Winter semester 4th year

	MON	TUE	WED	THU	FRI
1			Environmental Biology II		
2	Systematic and Taxonomy II	Cell Function and Structure II			
3	Laboratory Course in Cell Structure and Function/ Environmental Biology	Laboratory Course in Cell Structure and Function/ Environmental Biology	Laboratory Course in Cell Structure and Function/ Environmental Biology	Laboratory Course in Cell Structure and Function/ Environmental Biology	Laboratory Course in Cell Structure and Function/ Environmental Biology
4					
5					

ISP Specialized Subjects： Biology

*The subjects and the time table are just an example and subject to change.

Faculty Members

Kevin WAKEMAN

Biology is rooted in the study of life on Earth. At its core, this field seeks to address living systems across fundamental units: the cell (cell biology), individual organisms (physiology and functional biology), and the relationships between organisms and ecosystems (Ecology). To this end, the ISP at Hokkaido University is focused on the education of students broadly interested in the biological sciences. In the first years of the program, students in the Biology stream will take courses and labs focused on the basics of biodiversity, cell biology, functional biology, and ecology. In the final year(s), students will join a laboratory, and conduct intensive independent research in fulfillment of a Bachelors and Masters degree.

"Nothing in Biology Makes Sense Except in the Light of Evolution" — Theodosius Dobzhansky 1973

Marcel Pascal BEIER

Michael SCHLEYER

Student Voice

NANG Moon Siri

Myanmar

Build your science future at ISP.

Studying in the ISP at one of the top universities in Japan has not only allowed me to explore different areas of science but also develop skills to apply in my future science career. Hands-on laboratory experience, a big part of ISP, has given me the opportunity to apply science concepts learned in class and immerse myself in an environment that differs from that of a typical classroom. Furthermore, since lab classes are conducted together with everyone, I've had the chance the interact with Japanese students who are as passionate about science as I am.

As someone who dreams of becoming a scientist and studying in Japan, ISP is the ideal program for me.

1 DAY SCHEDULE

8:30 Breakfast

9:30 Reviewing for classes for the day

10:30 School 2nd

12:00 Heading to university

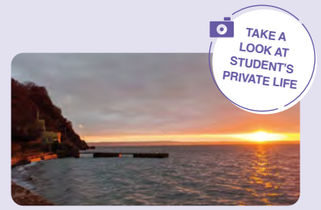
13:00 lunch 3rd School 4th 5th Do fun experiments in Akkeshi marine station (a laboratory course that I've chosen.)

18:00 Go home, Dinner

19:15 Study

22:00 Free time (read books, play games)

24:00



TAKE A LOOK AT STUDENT'S PRIVATE LIFE

I got the chance to participate in the marine ecology field course at Akkeshi marine station and enjoy the beautiful sunset from the eastern coast of Hokkaido.

Voice of Graduate

My experience at the ISP

Ranjani RAJAGOPAL
Graduate School of Science / India

I graduated from the Bachelor's program last year and am currently enrolled in the Graduate School of Science at Hokkaido University. The small class size and seminar style classes in the ISP Bachelor's program are ideal for students aiming to become researchers. Students can make the most out of the ISP Master's program by learning additional skills essential for researchers such as creative thinking, problem solving and proposal writing at 'Nitobe College'. Through my experience at Nitobe College, I also gained hands-on experience on applying and honing soft skills like leadership and collaboration. In addition, Nitobe College also gives you access to a wide alumni network and mentors which opens you to an ocean of opportunities beyond your field of study.


Nitobe College completion ceremony

I completed both the Foundation Program and the Honors Program for Graduate Students at Nitobe College and was selected to represent my class at the completion ceremony. Nitobe College has facilitated immense personal and professional growth for me. I would highly recommend ISP to anyone who wants to become a researcher with well-rounded soft skills.

*Completing the Foundation Program for Graduate Students of the Nitobe College is one of the requirements for the completion of ISP.
Nitobe College: https://nitobe-college.academic.hokudai.ac.jp/en/

Integrated Science Program at Hokkaido University

Kita17, Nishi 8, Kita-ku, Sapporo, Hokkaido, 060-0817, JAPAN

Integrated Science Program Office
isp@oia.hokudai.ac.jp +81-(0)11-706-8049

Admission Center (for admission inquiries)
adm-isp@academic.hokudai.ac.jp +81-(0)11-706-8045

Hokkaido University's Integrated Science Program

@ISPHokudai

isp.hokkaido

For more details, please visit our website.

https://www.oia.hokudai.ac.jp/isp/

Updated in March, 2024