



Guide to Graduate School Learning

**Design Your Own Learning with  
Osaka University's Graduate  
Education System**

Double-Wing Academic Architecture (DWAA)  
A system directed to interdisciplinary and social collaboration

[ 2021 Academic Year ]



## To graduate students starting their studies



Contemporary societies are facing complex and increasingly diverse issues, such as those identified in the SDGs. These issues cannot be solved through unidirectional processes: it is essential to develop advanced capabilities that enable issues to be tackled from various angles.

Dramatic changes are also taking place in the form of advancements in AI and other technologies alongside the global spread of infectious diseases. We are said to live in an era of uncertainty when predictions are difficult to make.

In these conditions, graduate degree holders are expected to tackle problems with flexibility and a broad worldview, collaborate with diverse stakeholders, and leverage core expertise as they more broadly and deeply deploy their graduate school education.

Osaka University has been pursuing reforms to its graduate education system to enable students in its graduate schools to devise their own diverse learning patterns tailored to the types of expertise they seek to acquire. The new system is characterized by the ability for students to select their own study load and to design their own learning in accordance with their interests.

How you design your learning at graduate school is up to you. Make use of the wide array of options at Osaka University to enhance your own learning experience.

## SUSTAINABLE DEVELOPMENT GOALS



# Design Your Own Learning with Osaka University's Graduate Education System

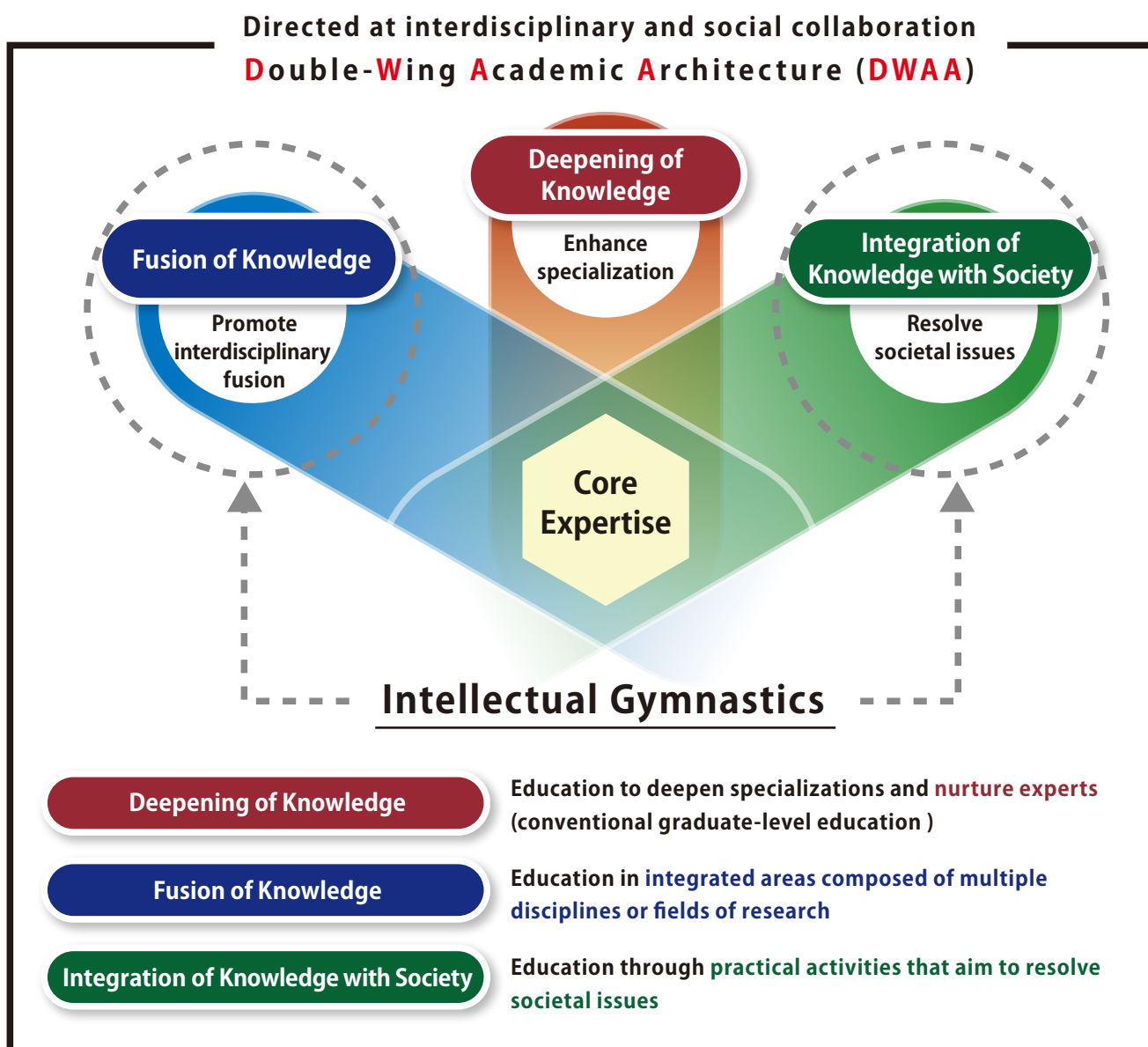


From the 2021 academic year, Osaka University will advance a graduation education system of Double-Wing Academic Architecture (DWAA). This system is geared toward interdisciplinary and social collaboration, with the aim of nurturing doctoral professionals capable of generating social innovations across a wide range of fields not limited to academia.

DWAA is composed of three areas: "Deepening of Knowledge," "Fusion of Knowledge," and "Integration of Knowledge with Society."

In addition to developing expert knowledge, which has been the focus of conventional graduate school education, one feature of this new system is expanding education in two new directions predicated on the acquisition of core expertise.

Osaka University has long offered a range of educational programs oriented toward the "Fusion of Knowledge" and the "Integration of Knowledge with Society." To provide students with more flexible choices, these programs have now been reorganized as "Intellectual Gymnastics Programs" (hereafter "Intellectual Gymnastics").



# Intellectual Gymnastics Program Listings

Category	Program Title	Eligible Departments	Selection Process	Completion Certificate Issued	Entry on Degree Certificate
C4	※ <sup>1</sup> C4S • <b>WISE Programs</b> • <b>Program for Leading Graduate Schools</b>	Specified departments only	Yes	WISE × Leading △ <sup>※<sup>2</sup></sup>	○
	Total 14 or more credits • <b>Graduate Minor Program</b>	All departments (some restrictions)	No (some exceptions)	○	×
C3	※ <sup>1</sup> C3S • <b>WISE Programs</b> • <b>Program for Leading Graduate Schools</b> • <b>Honors Program for Grad. Schools in Science, Engineering and Informatics</b>	Specified departments only	Yes	WISE × Leading △ <sup>※<sup>2</sup></sup> Honors ○	WISE ○ Leading ○ Honors ×
	Total of between 7 and 13 credits • <b>Graduate Program for Advanced Interdisciplinary Studies</b> • <b>Osaka University International Certificate Program</b>	All departments (some restrictions)	No (some exceptions)	○	×
C2	Total 6 credits or less • <b>Osaka University International Certificate Program</b>	All departments (some restrictions)	No (some exceptions)	○	×
C1	• <b>Advanced Liberal Arts Education etc.</b>	All departments	—	—	—

Many

Credits

Few

Programs systematically compose of multiple courses

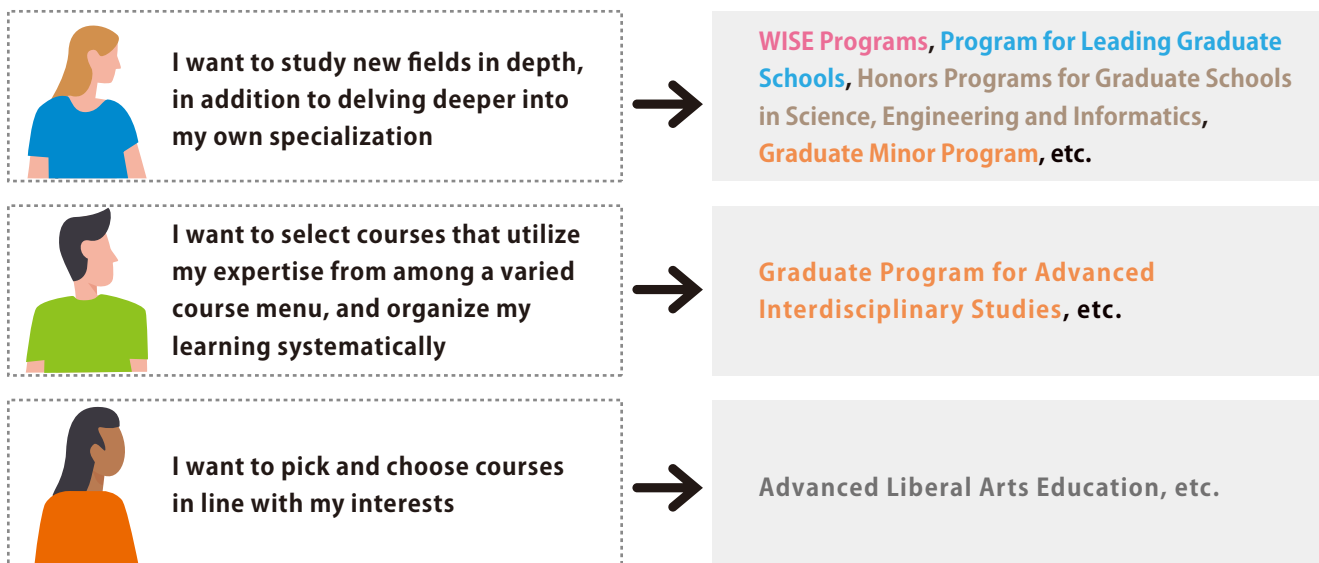
Register for individual courses

※1 S (Special) = Programs with special conditions attached (restrictions on students' affiliations, selection processes, etc.), or programs provided as part of JST or MEXT schemes

※2 Coursework completion certificates are provided for Program for Leading Graduate Schools, but you need to complete your graduate school course of study in order to complete the program fully.



# Design your own program tailored to your interests and workload





## Program Details

### WISE Programs (Doctoral Program for World-leading Innovative & Smart Education)

Category  
C4S / C3S

These are five-year integrated doctoral programs designed to foster doctoral professionals capable of tackling social issues and powering innovation in society, as well as playing leading roles in the creation and application of new knowledge and generating values for a new era. Those completing the program will have their completion recorded on their degree certificates when they complete the doctoral program in their affiliated graduate school.

<p><b>Transdisciplinary Program for Biomedical Entrepreneurship and Innovation</b></p> 	<p>An educational system based on industry-government-academia collaboration provides a platform that fosters doctoral professionals equipped with a comprehensive perspective on the biomedical sciences, critical research skills to achieve world-leading, cutting-edge advances in basic research, and the competence to translate one's own research findings rapidly and effectively into tangible solutions that our society needs.</p>
<p><b>Multidisciplinary PhD Program for Pioneering Quantum Beam Application</b></p> 	<p>Through a collaborative curriculum with top research institutions and corporations within and outside Japan, this program's objective is to train people capable of social implementation of innovative quantum beam application technologies to create a safe and super-smart society with abundance, health, and longevity.</p>

#### Curriculum

- 5-year integrated curriculum
- Systematic arrangement of multiple subjects (check specific programs for required number of credits)

#### How to Enroll


- Must apply and be selected to participate
- Some programs are limited to specific graduate schools and departments





Program listing on the i-TGP website


These are five-year integrated\*\* educational programs designed to cultivate leaders to take a wide variety of global roles in industry, academia, and government. Program completion is recorded on your degree certificate once you have satisfied the program conditions and successfully completed doctoral studies in your graduate school.

※ Some programs offer study patterns other than the five-year integrated model.


<b>Cross-Boundary Innovation Program</b>		This program aims to cultivate leaders who will have the first-rate creative and practical skills to cross boundaries and to generate the innovation that can foster change. These new-generation graduates will achieve this "Cross-Boundary Innovation" by transforming their way of thinking and going beyond the shells of their specializations.
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<b>Interactive Materials Science Cadet Program</b>		The IMSC Program aims to train program students as "Cadets for Materials Science" who will drive innovations in materials science research and development in a wide range of sectors spanning industry, government, and academia.
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<b>Humanware Innovation Program</b>		This program aims to cultivate outstanding leaders via intensive interdisciplinary studies (Seido Jukugi: in-depth discussion) to foster leaders who can construct flexible, robust, and sustainable systems that support an ever-changing social environment by introducing an entirely new concept: humanware.
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<b>Interdisciplinary Program for Biomedical Sciences</b>		This program aims to foster the next generation of leaders with a comprehensive understanding of integrated biomedical systems, the ability to pursue interdisciplinary research in life science fields, play active global roles in industry, academia, and government, and develop new therapies to conquer intractable diseases.
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※ Currently only available to specially selected international students in the Graduate School of Medicine

<b>Doctoral Program for Multicultural Innovation</b>		Students selected from both humanities/social science and natural science graduate schools come together in this program not only to deepen their expert knowledge in their fields of specialization but also to develop into researchers and practitioners equipped with the knowledge, skills, attitudes, and initiative to propose and implement concrete models for new forms of coexistence oriented to a shared future, based on the concept of "respect" informed by profound understanding of others.
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※ From the 2020 academic year, the program is accepting new applications as an accredited study program of the Graduate School of Human Sciences

## Curriculum

- 5-year integrated curriculum
- Systematic arrangement of multiple subjects; at least 14 credits (check each program for total credit requirements)

※ Some programs offer study patterns other than the five-year integrated model

※ The Doctoral Program for Multicultural Innovation is accepting new applications as an accredited study program of the Graduate School of Human Sciences

## How to Enroll

- Must apply and be selected to participate
- Some programs are limited to specific graduate schools and departments



Program listings on the i-TGP website

## Honors Program for Graduate Schools in Science, Engineering, and Informatics

Category  
C3S

This program is designed for students not only to develop strong research interest in their own scientific field, but also to develop multidisciplinary insight and acquire the ability to delve into different fields and new possibilities. Students select from one of the nine units available in the program, and take special subjects offered or designated by the program in addition to the curricular subjects in their own graduate school and department.

### Honors Program for Graduate Schools in Science, Engineering, and Informatics



- Electronics and Informatics Research Unit
- Life Science Research Unit
- Photonics Research Unit
- Fundamental & Astro Physics Research Unit
- Environmental Materials & Joining Design Research Unit
- Social Design Research Unit
- Materials Science Research Unit
- Humanware Research Unit
- Pioneering Quantum Beam Application Research Unit

### Curriculum

- Four-year curriculum offered from 2nd year of the master course (can also be taken over the three years of the doctor's course.)
- Systematic arrangement of multiple subjects (minimum of 7 and maximum of 13 credits in total)

※ Some units are operated as separate programs

### How to Enroll

- Must apply and be selected to participate
- Some units are limited to specific graduate schools and departments



Honors Program for Graduate Schools in Science, Engineering, and Informatics website

## Graduate Minor Program / Graduate Program for Advanced Interdisciplinary Studies

Category  
C4 / C3

The Graduate Minor Program and Graduate Program for Advanced Interdisciplinary Studies are educational programs in which subjects are systematically organized according to certain academic themes for students to effectively acquire multifaceted and comprehensive perspectives. In either program, students will be able to proactively take subjects that they are interested in, allowing them to explore the latest issues in the real world and academia while working with academic staff and students from different disciplines. Students will be awarded a certificate of completion for the program when a student satisfies the requirements specified for the program. The number of programs offered varies from year to year: in the 2021 academic year there are 18 Graduate Minor Programs and 42 Graduate Programs for Advanced Interdisciplinary Studies. The most up-to-date information is available at program guidance sessions held in April, and on the website of the Center for Education in Liberal Arts and Sciences.

### Curriculum

#### Graduate Minor Program

- Systematic arrangement of multiple subjects (total of 14 or more credits)

#### Graduate Program for Advanced Interdisciplinary Studies

- Systematic arrangement of multiple subjects (minimum of 7 and maximum of 13 credits in total)

### How to Enroll

- Submit a request and register in the applicable subject(s)
- ※ Some programs have a selection procedure



Center for Education in Liberal Arts and Sciences website

# Osaka University International Certificate Program

Category  
C3 / C2

This is a hybrid education program composed of online subjects and Practical Study Abroad courses international fieldwork subjects utilizing Osaka University's ASEAN campuses.

In the one-year program period, students undertake a short study abroad at an institution that houses an ASEAN campus, and receive a completion certificate upon satisfying the completion conditions (earning between 6 and 8 credits). The number of programs offered varies from year to year: in the 2020 academic year, there were 5 programs.

## Curriculum

- Systematic arrangement of multiple courses (minimum of 6 and maximum of 8 credits in total)

## How to Enroll

- Must apply and undergo a selection based on submitted



Profile page on the Osaka University website

# Advanced Liberal Arts Education

Category  
C1

Advanced Liberal Arts Education are subjects designed for students in higher year levels and located within the "Liberal Arts" category, one of the three pillars of Osaka University's education system. Osaka University aims to cultivate "multifaceted and comprehensive viewpoints" which can be acquired from learning outside professional education and "high-level capability" to solve real-life problems through use of the advanced expert knowledge and skills acquired in specialized education. For this purpose, students are able to take subjects other than those offered within their own graduate school, undergraduate school, or department. Students from the fall semester of the second year of undergraduate studies through to graduate school level can be awarded credit upon completion of such subjects nominated by their own school, as advanced liberal arts and sciences subjects.

## Curriculum

- Offered as single courses

## How to Enroll

- Register course by course



Profile page on the Osaka University website





# Enrolling in the Programs

If you are interested in taking one of these programs, check the methods and application periods before **submitting a program application and registering for a course**. Methods and application periods vary from program to program, so be sure to check the i-TGP website or program-specific pages for the latest information.

**Example 1**

I want to take a Program for Leading Graduate Schools or WISE Program.

- ➔ Check if applications for the program are accepted from your graduate school/department.
- ➔ Check the application dates and apply.

**Example timeline for Programs for Leading Graduate Schools and WISE Programs that begin in April**

\* For programs beginning in October, check the website or informational material.

**Example 2**

I want to know what kinds of Graduate Minor Programs and Graduate Programs for Advanced Interdisciplinary Studies are available. Where do I find program content and how to take them?

- ➔ Explore the programs you're interested in by attending program guidance sessions or accessing the Center for Education in Liberal Arts and Sciences website.
- ➔ Submit your program application through KOAN during the application period in April, then register for the program courses.

**Example timeline for Graduate Minor Program and Graduate Program for Advanced Interdisciplinary Studies**

## Want to know more?

For the latest information on any of these programs, check the official program website or the Center for Education in Liberal Arts and Sciences website. The website of the Institute for Transdisciplinary Graduate Degree Programs brings together information on all these programs.



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