

# Graduate School of Science

PROGRAMS FOR INTERNATIONAL STUDENTS













# STRUCTURE OF THE GRADUATE SCHOOL OF SCIENCE



# **Departments and Courses**

○···Course provided in cooperation with other departments of Osaka University
 ●···Course provided in partnership with research institutes outside the university



### Dept. of MATHEMATICS

Algebra Geometry Analysis Global Geometry & Analysis **Experimental Mathematics** Mathematical Science



Integrative Mathematical Sciences



### Dept. of BIOLOGICAL SCIENCES

Molecular Cell Biology Animal Development and Evolution Plant Science Neurobiology Protein Function



OSignal Transduction Biology

OProtein Structure Chemical Biology

OLife Science



Macromolecular Synthesis and Reactions Macromolecular Structure, Properties and **Functions** 

Macromolecular Assemblies

OInformative Polymer Science



### Dept. of MACROMOLECULAR SCIENCE

OParticle and Nuclear Reactions **Quark Nuclear Physics** 

OAccelerator Physics

Condensed Matter Physics

Particle and Nuclear Physics

OScience under Extreme Conditions

OAdvanced Photophysics

Advanced Physics

Dept. of PHYSICS

**Fundamental Physics** 

Interdisciplinary Physics

Quantum Physics



# Dept. of EARTH AND SPACE SCIENCE

Astrophysics and Planetary Science Earth and Planetary Material Sciences Extreme Material Science



### Dept. of CHEMISTRY

Inorganic Chemistry Physical Chemistry Organic Chemistry Interdisciplinary Chemistry

OFunctional Material Synthetic Chemistry

Olnorganic Compound Function

OBiomolecular Structure

OComplex Molecular Chemistry

Ocomputational Biology

Highly Functional Material Properties

●Functional Peptides

Structural Biomolecular Chemistry

Chemical Biology for Medical and Health Sciences



# Attached Facilities

### **Research Center for** Thermal and Entropic Science

Division of Entropic Science of Molecular Systems Division of Non-Equilibrium Thermal Science and Soft Matter Science

Division of Extremely Small Scale Thermal Science and Nano-Calorimetry

Division of Micro Biological Thermodynamics

Division of International Collaborations



# Forefront Research Center

Challenging Exploratory Research Division Cross-Disciplinary Project Research Division Forefront Research Division



### Center for Advanced **High Magnetic Field Science**

Research Division of Physics I Research Division of Physics II Research Division of Chemistry and Biology Research Division of Cooperation Support Division for Joint-research



# Office of Research Administration

Planning and Evaluation Educational Planning Research Planning International Affairs University-Industry Collaboration Public Relations Risk Management Safety and Hygiene Management Common Equipment Management

Research Administration Support

# **Technical Support Division**

Analytical Instrument Facility Promotion Office for Safety and Hygiene Support Office for Education and Research Promotion Office for Public Relations and Information

# Administrative Office

General Affairs Section Personnel Section Academic Affairs Section Graduate Students Section Accounting Section Contract Section Research Support Section

# **EDUCATIONAL GOAL AND POLICY** OF THE GRADUATE SCHOOL OF SCIENCE













# Graduate School of Science

# - "Originality and Inspiration"

Inheriting the founding spirit and tradition of the School of Science, which was established at the same time as Osaka Imperial University, the Graduate School of Science has adhered to its "research-first" mission. The Graduate School of Science has about 200 full-time academic staff and 820 graduate students across six departments: mathematics, physics, chemistry, biological sciences, macromolecular science, and earth and space science. Many of the students and faculty are carrying out original and leading-edge research and trying to expand the fields of research and education. Inspired by watching their teachers pursue their research, students are following suit and developing into world-class researchers and scientifically literate public leaders. The activities of the Graduate School of Science cover the entire gamut from fundamental to applied science, thereby promoting the development of new fields and the accumulation of knowledge for the future.



# Graduate Degree Programs in English

# Special Integrated Science Course (SISC)

SISC was developed with the aim of training creative and independent researchers who have the capability to work in a broad range of fields and can work in new interdisciplinary areas. SISC offers a full range of lecture courses from high-level basic knowledge to cutting-edge topics, and students in the departments of chemistry, biological sciences, and macromolecular science can take classes that cross the boundaries of their disciplines.



# International Physics Course (IPC)

IPC aims to cultivate open-minded researchers and company employees with a wide range of knowledge and who will proactively engage in international research and rise to the challenge of new subjects for research. IPC offers a curriculum composed of lecture-style learning and research activities in the department of physics and related research institutes.



# Requirements for Completion of the Graduate Degree Programs

Osaka University awards a master's degree or doctoral degree (PhD) to students who have completed all credit requirements and passed the respective degree examinations. The students must have learned the essence of natural science through their efforts to pursue the truth and must have fully honed their research skills through the education provided by the Graduate School of Science.

### **Master's Program**

The master's program lasts two academic years and requires a thesis for completion. Students spend the first three semesters earning credits through lectures and research work and then write a master's thesis during the last semester.

### **Doctoral Program**

Doctoral students spend the majority of their three years conducting research for their doctoral thesis/dissertation under the supervision of an experienced faculty member.

- \*When their thesis is completed, both master's and doctoral students give an oral presentation about it.
- \*The department of chemistry has a four-year integrated program for students who enroll in the Master's program, enabling them to acquire a Master's Degree and a Ph.D. degree in four years at the earliest. The requirements for completion of this program are different from the above.

Note: We also accept international students who understand and speak Japanese sufficiently well into the graduate degree programs in Japanese across six departments: mathematics, physics, chemistry, biological sciences, macromolecular science, and earth and space science.



# Graduate Educational Programs for All Graduate Students

The following educational programs aim to produce graduates capable of serving as international leaders in the wide range of academia, business, and government. Students are required to attend assigned lectures and complete special activities. Financial aid is also available. For more information, please visit the website of each program.

Doctoral Program for World-leading Innovative & Smart Education

Multidisciplinary PhD Program for Pioneering Quantum Beam Application



Program for Leading Graduate Schools

Cross-Boundary Interactive Materials Innovation Program Science Cadet Program

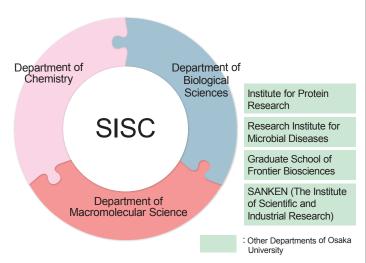




Honors Program for Graduate Schools in Science, Engineering and Informatics



# Special Integrated Science Course (SISC)



### Curriculum

The SISC curriculum is designed to introduce graduate students to the latest skills used for research and help them gain in-depth knowledge of advanced topics in chemistry, biology, and macromolecular science.

### **Master's Program**

Basic Biology I & II
Science Core
Introductory Biology
Biological Science
Bio/Chemoinformatics
Basic Macromolecular Science
Advanced Macromolecular
Science I & II
Genome Chemistry
Protein Chemistry
Quantum Chemistry
Thermal and Entropic Science

Analytical Chemistry for Interface
Complex Molecular Chemistry
Natural Product Chemistry
Organic Biochemistry
Structural Organic Chemistry
Topics in Inorganic Chemistry
Advanced Chemical Experiment
Radiation Science in the
Environment
Current Topics
Interactive Seminar
Semestral Seminar

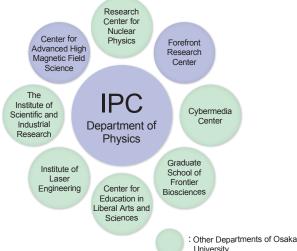
### **Doctoral Program**

Current Topics Interactive Seminar for Advanced Research Seminar for Advanced Researches

Find more information about SISC https://sisc.sci.osaka-u.ac.jp/global30/SISC/index.html



# International Physics Course (IPC)



### Curriculum

The IPC curriculum is composed of classroom learning and research activity under the supervisor of the research group into which the student has been accepted.

### **Master's Program**

Electrodynamics and
Quantum Mechanics
Quantum Field Theory I & II
Theoretical Particle Physics
Introduction to Theoretical
Nuclear Physics
Quantum Many-Body Systems
Condensed Matter Theory
Solid State Theory
High Energy Physics
Nuclear Physics in the Universe
Optical Properties of Matter

Synchrotron Radiation Spectroscopy Computational Physics Cosmology High Energy Astrophysics Radiation Science in the Environment Semestral Seminar

# **Doctoral Program**

Topical Seminar Seminar for Advanced Researches

Find more information about IPC http://www.rcnp.osaka-u.ac.jp/~ipc/



# **Application**

### **Contact a Professor**

Applicants should contact the head of the research lab to which they intend to apply. In order to apply for a program, the applicant must submit a "Letter of Conditional Acceptance" from the prospective supervisor at Osaka University. For more information on our research labs, please go through the researchers' database at

https://www.sci.osaka-u.ac.jp/en/outline/researchers/

### **Admission Procedure**

New graduate students will be selected through the screening of documents, a written examination, and an interview.

For more details, please visit our website. If you are unsure about eligibility or have any other query about your application, please contact the Graduate Students, Administrative Office at ri-daigakuin@office.osaka-u.ac.jp









# Academic Fees (as of 2024)



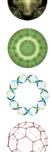


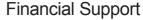


- \* These fees are subject to change.
- \* Full-time privately funded students enrolled in Osaka University are eligible to apply for a tuition and/or enrollment fee exemption or deferred payment. Applications will be screened based on a student's academic achievements and financial status.

To be paid in May and November

No examination fees are required for IPC and SISC admission





Entrance examination fee

Matriculation fee

There are some financial supports for international students at Graduate School of Science, Osaka University. For more information, please visit our website (https://www.sci.osaka-u.ac.jp/en/overseas-study/financial\_support/).

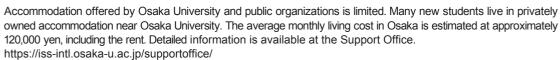
- Japanese Government (Monbukagakusho: MEXT) scholarship
- JASSO Honors Scholarship for Privately-Financed International Students (JASSO: Japan Student Services Organization)

282,000 yen

30,000 yen

- Osaka University Graduate School of Science Scholarship
- Support by Graduate Educational Programs
- Research Assistants (RA) or Teaching Assistants (TA)

# Housing and Living Costs







# Health and Counseling

Osaka University offers many personal counseling resources, including department faculty advisors, international student advisors, and professional counselors at the Health and Counseling Center. https://hacc.osaka-u.ac.jp/ja/





# Career Support

The Graduate School of Science and the Center for International Education and Exchange (CIEE) of Osaka University provide assistance for international students who are seeking employment in Japan. https://ciee.osaka-u.ac.jp/en/





### FAQ

Q: Do I have a chance to learn Japanese?

A: Yes, we offer an elective Japanese language program for non-Japanese students. For more details, please contact the Center for International Education and Exchange (CIEE) of Osaka University.



A: Please visit the research pages of the departments in which you are interested. There you will see the names and research interests of our faculty who can supervise MSc and PhD students. The best way is to email a brief overview of your research interests to those who match them. At this stage, it is advisable to cc one of our offices, either gssadmis@sci.osaka-u.ac.jp (for SISC) or ipc-office@ipc.phys.sci.osaka-u.ac.jp (for IPC).



# **Double Degree Programs**

Double Degree Programs are offered in partnership with distinguished universities worldwide. These programs enable students enrolled in the master's program or the doctoral program to obtain a degree at both universities after completing the coordinated

For more information, please visit our website (https://www.sci.osaka-u.ac.jp/en/overseas-study/double\_degree\_program/).



# Short-Term Non-Degree Programs

Osaka University offers a wide variety of short-term non-degree programs (one year or less) for international students from the foreign universities with whom there are student exchange agreements (these students are known as "short-term exchange students" ). Within these programs, there are a number of classes in which Japanese students may also participate. Through these classes, a close interchange with Japanese students can be achieved. For more details, please refer to the following websites:

FrontierLab@OsakaU: for Engineering and Science Majors

OUSSEP: Osaka University Short-Term Student Exchange Program

iExPO: Immersion Exchange Program Osaka







Kyuhoji

Osaka Metro(Subway) Midosuji Line/ Kita-Osaka kyuko Line

Osaka Metro(Subway) Hankyu Lines

Other Private Lines

■ JR Shinkansen

Keihan Lines

# **Campus Locations and Transportation**



# Osaka University Overseas Centers

North American Center for Academic Initiatives (Berkeley) email: info.sf@overseas.osaka-u.ac.jp URL:https://www.osaka-u.ac.jp/en/international/overseas/sf



European Center for Academic Initiatives (Groningen) email: info.groningen@overseas.osaka-u.ac.jp URL: https://www.osaka-u.ac.jp/en/international/overseas/nl



ASEAN Center for Academic Initiatives (Bangkok) email: info.bangkok@overseas.osaka-u.ac.jp https://www.osaka-u.ac.jp/en/international/overseas/bkk



East Asian Center for Academic Initiatives (Shanghai) email: shanghai-ina@ml.office.osaka-u.ac.jp URL: https://www.osaka-u.ac.jp/en/international/overseas/sha





Kansai

Internationa

Airport(KIX)

Graduate School of Science, Osaka University
1-1 Machikaneyama-cho, Toyonaka, Osaka 560-0043, Japan
Tel: +81-(0)6-6850-6111 E-mail: gssadmis@sci.osaka-u.ac.jp
https://www.sci.osaka-u.ac.jp/en/

Dobutsuen-ma

Tengachaya