

## **Yokohama National University (National) Graduate School of Urban Innovation**

### ◆ Program name

Department of Infrastructure and Urban Society,  
Specialization in International Infrastructure (IGSI)

### ◆ Degrees:

- a. Master of Engineering
- b. Master of Philosophy

### ◆ Credit and years needed for graduation:

- a. 30 Credits, 2 Years
- b. 30 Credits, 2 Years

### ◆ Address:

79-1 Tokiwadai, Hodogaya-ku, Yokohama 240-8501 Japan



## **Features of University** <https://www.ynu.ac.jp/english/>

### **History and unique features**

Yokohama National University (YNU) was established in 1949. It has developed into a university composed of five faculties - Education, Economics, Business Administration, Engineering Science, and Urban Sciences - and six graduate schools – Urban Innovation, Education, Social Sciences, Engineering Science, Environment and Information Sciences, and YNU Interfaculty Graduate School of Innovative and Practical Studies - with over 1,000 faculty and staffs and more than 10,000 students. Around 10% of students are international students, and YNU is one of the top national universities to accept international students in Japan.

YNU is on a green hilltop northwest of the city center. Since the opening of Yokohama Port in the middle of 19th century, trade and international business have been prospering. Deeply rooted in this cosmopolitan city, YNU has developed internationally-oriented educational and research activities.

YNU is a university where all teaching and administrative staff and students share a sense of mission, the heart of which is to create knowledge and transmit it to the next generation. We are a university that sincerely endeavors to deliver what it has been tasked by the international community to provide as an institute of higher education.

YNU is seeking sustainable development for the world and Japan by focusing our attention on emerging economies in Asia and beyond. To be successful in this new global age requires a thorough understanding of the cultures, religions, and systems of emerging economies. What will be critical in this context is education and research that integrate the humanities, social sciences, and natural sciences. YNU houses its humanities and social science colleges and its science and engineering colleges on the same campus so the university has great potential to offer education and conduct research suited to the new global age.

In addition, YNU is deeply connected to its local area of Yokohama City, Kanagawa Prefecture. Yokohama has great potential for innovation while at the same time facing many challenges, including environmental issues and population aging with the decline in the birthrate. Many of these challenges are also shared by other parts of the world. YNU is confident that paying attention to and addressing the issues of Yokohama will in fact develop a global perspective: a unique viewpoint that can simultaneously consider both the local and the global. Harnessing the merits of having a single campus that brings together the humanities and the sciences, and that is home to many international students from emerging economies, YNU will develop human resources equipped to thrive in the new global age.

## **Features of Graduate School** <https://www.urban.ynu.ac.jp/english/>

The Graduate School of Urban Innovation was to train those creative, highly-specialized future professionals whose work will involve a variety of urban innovation projects (M.A. Program) and those future global leaders who, having trained to possess multiple viewpoints, will themselves be the underpinnings of global expansion of urban innovation research (Doctorate Program).

In April 2011, YNU, which aims to be an international focal point of practical scholarship, established a new Graduate School “Graduate School of Urban Innovation (GSUI)” with “City” as its theme. This is Japan’s first Graduate School, where graduate school students specializing in architecture, art, civil engineering, social science,

etc. eventually cooperate in the area of “City” while deepening the quest for their respective specializations.

GSUI was established because “city” is the major challenge that humankind must address in the 21st century, such as: the worsening problems of environment and energy, due to the enormous growth of urban area; turmoil in the political, economic, and cultural values in cities around the world; problems posed by the aging population, declining birth rate, and excessive computerization; exodus of population and activities from small and medium-sized cities, and the resultant reduction of the city itself; and the problems of quantitative and qualitative fulfillment of livelihood and social infrastructure posed by rapid economic growth and changes in the industrial structure of emerging and developing countries. We face the various challenges concerning the city and are consequently required to achieve innovation of a city that meets these challenges.

Against this backdrop, GSUI fosters the growth of advanced professionals having practical skills in both, the fields such as architecture and building science and civil engineering that form the structural side (or the hardware) of the city, and fields such as humanities, social sciences, international community and culture/art that comprise the non-structural side (or the software) of the city. To that end, we provide a multifaceted research environment that facilitates the cross-sectoral study of both the fields (mainly in the Master’s Program). And finally, we want to be an incubator for the globally competitive next generation of leaders having the ability to take a variety of approaches regarding the theme of urban innovation (mainly in the Doctoral Program).

### ■ Academic Schedule

The Entrance of the program

- the beginning of October

Intermediate Examination of the research:

The first examination

- the fourth week of August in the 1st year

The second examination

- the third week of February in the 2nd year

Final Examination of the research

- the fourth week of August in the 2nd year

The Graduation of the program

- the final week of September in the 2nd year

## Features of the Program

GSUI provides two departments for the Master’s degree, one of which for JDS Fellows is the Department of Infrastructure and Urban Society. In the department, students will train to become 1) an expert with the ability to analyze and design development of and solutions to specific areas of the globe, paying attention to each area’s engineering and social infrastructure or 2) a leader who is capable of making contributions in addressing urban problems and community development in emerging and developing countries in such organizations as central governments, local governments, international aid organizations, private corporations, and NGOs. The Master’s degree in either Engineering or Philosophy will be awarded. There are one course and one school inside this department.

JDS Fellows are expected to join the International Graduate School of Infrastructure (IGSI) in the department.

All of the academic staff, including assistant professors, have a wealth of experience in international activities, e.g., presentation at the international conference. Moreover, all of the lectures for IGSI students are carried out in English, and all professors can supervise in English.

In addition to coursework and seminars, by extensively utilizing a studio-teaching format\*, the IGSI trains students to gain useful knowledge of planning, which they put to actual use when they confront various urban problems in emerging and developing countries.

- In coursework, students are expected to obtain basic knowledge and theory on planning / civil engineering / architecture / development study.
- In studio\*, students analyze data and develop urban/rural/regional development plan or conduct research or experiment in the actual field and are expected to understand knowledge and theory obtained in the coursework deeply.
- In technical tours, students see the construction site and have discussions with specialists in charge and are expected to learn issues and to find a solution.



(iv) In seminars, students conduct research and write a master thesis on issues in transportation infrastructure development or urban development or management and maintenance of infrastructures and are expected to obtain knowledge and ability to resolve issues on the subject.

\*studio, studio-teaching format; 'studio' is YN U's original educational method. In studio, students work jointly on developing urban / rural /regional development plans or conduct research and develop proposals in the actual field under the supervision of professors. By this studio-teaching method, students are expected to obtain more practical knowledge and skills.

Regarding research works, in the field of transportation infrastructure, we have achieved much research in the various field of civil engineering, such as transportation planning, urban planning, structural engineering, geotechnical engineering, and concrete engineering. Our outstanding achievement in this field is that we have extensive research targeting to developing countries. Additionally, we have conducted much research on urban development around a station. Therefore, our research achievement covers transportation infrastructure development comprehensively.

In the research field of disaster risk reduction and disaster prevention, we also have many achievements in the various field of natural disasters, such as earthquakes, tsunami, typhoons, and heavy rains, etc. Our outstanding achievement in this field is that we have extensive research targeting actual disasters, not only for the disasters that occurred in the past but also for that will happen in the future. Additionally, several research topics about disaster prevention in developing countries are ongoing by our academic staff.

## Necessary Curriculum to Obtain the Degrees

Credits for IGSI

Course		Minimum number of credits required
Common Lectures		6
Practical Courses	Studio Internship	8
	Lectures	8
Major Courses	Seminars	8
	Thesis	Thesis

Common Lectures	Credits
Geotechnical and Geo-environmental Engineering in Urban Area	2
Cross-border Societies and Region	2
Seismic and durability design	2
Structural Dynamics and its application to Design	2
Theory for infrastructure safety design	2
<b>Practical Courses (Studio and Internship)</b>	
Studio for infrastructure 4	4
Studio for infrastructure 2	2
International Project Management Studio	4
Short-term Internship	2
<b>Major Courses (Lectures and Seminars)</b>	
Advanced Theory of Disaster Prevention System Design	2
Theory of Geotechnical Design	2
Water Disaster Prevention Engineering	2
Environmental processes in inland and coastal waters	2
Urban infrastructure policies	2
Transportation Planning	2
Theory of Regional Planning	2
Elastoplastic Theory of Geomaterials and Continuum Mechanics	2
Infrastructure Disaster Prevention	2
Thermodynamics of Structural Concrete	2
Seminar on Urban and Regional Studies IS	2
Seminar on Urban and Regional Studies IF	2
Seminar on Urban and Regional Studies IIS	2
Seminar on Urban and Regional Studies IIF	2

## ***List of faculty members capable of guiding JDS Fellows***

Faculty members in IGSI (all the members listed here are capable of guiding JDS Fellows)

### **Professors**

HAYANO, Kimitoshi, D.Eng.  
Geotechnical Hazard, Soil Structure, Ground Improvement, Soil Investigation  
HOSODA, Akira, D.Eng.  
Concrete Engineering, Maintenance Engineering, Concrete Structures  
KATSUCHI, Hiroshi, D.Eng.  
Structural Engineering, Bridge Aerodynamics, Wind Engineering  
MAEKAWA, Koichi, D.Eng.  
Concrete Engineering, Multi-Scale Thermodynamics  
MATSUYUKI, Mihoko, D.Eng.  
Urban and Regional Planning  
SUZUKI, Takayuki, D.Eng.  
Coastal Engineering, Hydraulic Engineering  
TANAKA, Shinji, D.Eng.  
Transportation Engineering, Transportation Planning

### **Associate Professors**

CUI Ying, D.Eng.  
Geotechnical Engineering, Tunnel Engineering, Ground Disaster Prevention  
FUJIYAMA, Chikako, D.Eng.  
Concrete engineering, Structural design, Steel-concrete composite structure  
KIKUMOTO, Mamoru, D.Eng.  
Geotechnical Engineering  
TAMURA, Hiroshi, D.Eng.  
Structural engineering, Bridge engineering, Fracture mechanics

### **Other Faculty members in Graduate School of Urban Innovation**

HIKOE Tomohiro  
INUI KUMIKO  
KAWABATA Masaya  
KIYOTA Tomonori  
KURENUMA Norihisa  
MATSUMOTO Yuka  
NISHIZAWA Ryue  
OHARA Kazuoki  
ONO Satoshi  
SADOHARA Satoru  
SEJIMA Kazuyo  
SUGAWA Akiko  
TAKAMIZAWA Minoru  
CARPENTRAS Fabien  
EGUCHI Toru  
FUJIWARA Teppei  
FUJIOKA Yasuhiro  
HIRAKURA Kei  
INAGAKI Keiko  
ISHIDA Takanori  
MORITA Masashi  
NAKAGAWA Katsushi  
NOHARA Taku  
SUGIMOTO Kuniyoshi  
TANAKA Ineko  
TERADA Mariko  
YOSHIDA Satoshi

FUJIKAKE Yoko  
KOMIYA Masayasu  
MATSUMOTO Hisashi  
OSUKA Fumikazu  
SAITO Asato  
YOMOTA-TARUMI Chie  
KAMAHARA Yuta  
HASEGAWA Hideki  
MIURA Rinpei  
PARK SangMi  
SATO Mine  
TAKAHASHI Hiroshi  
TSUJI Yamato

The students are advised to decide her/his supervisor shortly after the entrance in October.

### **Academic Schedule** <https://www.ynu.ac.jp/english/student/calendar/calendar2020/>

The Entrance of the program	the beginning of October
Intermediate Examination of the research:	
The first examination	the fourth week of July in the 1st year
The second examination	the third week of February in the 2nd year
Final Examination of the research	the fourth week of July in the 2nd year
The Graduation of the program	the final week of September in the 2nd year

### **Facilities** <https://www.ynu.ac.jp/english/about/index.html#facilities>

**Ooka International Residence** is a quality housing complex for the international community of students, researchers, and faculty and administrative staff of YNU, aimed to promote multicultural exchanges and mutual understanding. It is comprised of men's dormitory, a women's dormitory with lounges other areas for sharing and interchange. Maximum occupancy is 252 international students, 23 international researchers, 36 faculty and administrative staff, and all rooms are individual rooms, including washbasins, toilets, beds, desks, chairs, lockers, and other amenities. Rooms in Ooka International Residence will be allocated to JDS Fellows as a priority, and they can stay there for the whole two years.

### **Message for Applicants**

Yokohama is one of the most progressive cities in terms of urban development in Japan. Yokohama City has redeveloped a coastal industrial area into the modern offices, and the shopping, the residential district called Minato Mirai while conserving a large agricultural area. Thus, Yokohama city has both urban and rural faces and has successfully integrated the two aspects into its plans. Yokohama is the most appropriate city to study planning.

The faculty member for the program has sufficient experience in educating international students from developing countries for almost 30 years both in the Japanese government's Special Program for International Infrastructure Engineering since 1989 and World Bank's Infrastructure Management Program since 1995. Now 87 international graduate students from various countries are studying in our department. We are confident that we can provide excellent education with international students in the field of civil engineering and urban and regional planning. One Phillipian graduate is now leading academia as an associate professor in Philippines University.

Yokohama National University has educated almost 120 JDS fellows since 2001, and most of the graduates became leading administrative officials in their countries. Currently, seven Philippines students are studying in our program, and six of them are JDS fellows. Through systematic education by professors and friendly support by Japanese tutors, they are acquiring knowledge and skills. Additionally, we have great experiences in field research in the Philippines.

As noted above, about 10% of our students are international students, and we are proud of the following services to support international students;

### *For student life*

- Priority leasing in an international dormitory
- Guidance for international students
- Twice-a-week mail magazine to international students
- Moon-viewing party hosted by the president for international students
- Field trip for international students (five times a year, capacity: 40 students)
- Many extracurricular events by international exchange club
- Many extracurricular events by citizen volunteers
- Special care for Muslim students (pray spaces, Halal food at cafeteria, chilled Halal food in a refrigerator)
- Bilingual signs
- Counseling service at international education center
- Special Counseling service for international students (once a week)
- Homestay program
- Publishing a guidebook for international students

### *Education*

- 528,992 books in English in libraries, 3900 electronic journals in English
- A variety of Japanese classes and Japanese culture classes offered by an international educational center
- The student-tutor system (A Japanese 'tutor' is assigned to each international student.)
- Several English graduate programs carried out in English

### *International Network*

- International alumni network
- Twice-a-month mail magazine for international alumni

With these services available, our international students can smoothly settle in Japan.

Moreover, YNU is located in one of the prominent cosmopolitan cities in Japan, Yokohama city. Yokohama has a number of foreign residents and provides an environment that is hospitable to them. All of the international students who have studied and are now studying at YNU, including JDS Fellows, have gotten used to life in Japan soon and enjoyed/are enjoying their life in Japan healthfully and comfortably.

As stated above, YNU brings a definite advantage to international students. We are willing to offer practical education that suits students' needs. We are delighted to welcome more students from the Philippines as they are expected to study earnestly, diligently, and friendly.

In June, those of us who have taught JDS Fellows come together and listen to the Fellows' final presentations on their theses. We recollect then how they started their studies with us. Some of them looked anxious without fully comprehending what was expected in graduate education and to be "masters". In less than two years, however, we observe that they communicate with us about their research results which are more than expected. We also see the confidence in their faces. All audiences, including faculty members, now listen to them carefully and learn from their presentations. For all students, the end of the second year means the gateway for more opportunities and possibilities in their future career paths. For most JDS Fellows, it also means their renewed commitment to realizing the better future of their own countries, and they now know that they have much larger capacities, knowledge, and insights than they did two years ago. If you decide to join us, this is a possibility that you expect to see yourself in two years, a tiny fraction of your lifetime.