

## 2-2. Improvement of Healthcare and Social Security System

### **Hiroshima University (National) Graduate School of Innovation and Practice for Smart Society**

◆ **Program name**

Research Area: Smart Mobility, Global Health and Medical Science

◆ **Degrees:**

Master of Philosophy

◆ **Credit and years needed for graduation:**

30 credits, 2 years

◆ **Address:**

1-5-1 Kagamiyama, Higashi-Hiroshima-shi, Hiroshima,  
739-8529, Japan



### **Features of University** <http://www.hiroshima-u.ac.jp/en>

Hiroshima University (HU) was established by combining eight existing institutions in May 1949 under the National School Establishment Law. Later in 1953, the Hiroshima Prefectural Medical College was also added to the new HU. Some of these higher educational institutions already had brilliant traditions and histories of their own. Although these educational institutions suffered a great deal of damage due to the atomic bomb, which was dropped on Hiroshima on August 6, 1945, they were reconstructed and combined to become the new HU. In addition, Graduate Schools were established in 1953. The new HU has risen from the ruins of war like a phoenix, which is in fact the University's symbol.

HU has a long history of accepting international students. This commenced before World War II. As of May 2023, HU has over 13,000 students including approximately 1,700 international students from about different 80 countries. For details about education and student's life at Hiroshima University, please visit the following websites.

Education and Students Life: [https://www.hiroshima-u.ac.jp/en/explore\\_hu](https://www.hiroshima-u.ac.jp/en/explore_hu)

- Learning: [https://www.hiroshima-u.ac.jp/en/explore\\_hu/learning](https://www.hiroshima-u.ac.jp/en/explore_hu/learning)

- Timeline: [https://www.hiroshima-u.ac.jp/en/explore\\_hu/timeline](https://www.hiroshima-u.ac.jp/en/explore_hu/timeline)

- Support: [https://www.hiroshima-u.ac.jp/en/explore\\_hu/support](https://www.hiroshima-u.ac.jp/en/explore_hu/support)

- Life: [https://www.hiroshima-u.ac.jp/en/explore\\_hu/life](https://www.hiroshima-u.ac.jp/en/explore_hu/life)

- Photos: [https://www.hiroshima-u.ac.jp/en/explore\\_hu/photo](https://www.hiroshima-u.ac.jp/en/explore_hu/photo)

- Videos: [https://www.hiroshima-u.ac.jp/en/explore\\_hu/videos](https://www.hiroshima-u.ac.jp/en/explore_hu/videos)

### **Features of Graduate School** [https://www.hiroshima-u.ac.jp/en/smart\\_society](https://www.hiroshima-u.ac.jp/en/smart_society)

In April 2023, Hiroshima University launched a new graduate degree program, the Graduate School of Innovation and Practice for Smart Society to foster human resources who can design, develop, and implement systems and technologies to achieve a smart society to flexibly respond to social issues among diverse human societies from the range of the entire earth to local communities.

● Integrated knowledge of learning and practice

- A degree that balances interdisciplinary and expertise
- Participation of many leaders and institutions with practical experience from international industry, government and academia

● Supervision to realize interdisciplinary education and research

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- Supervisors from multiple disciplines from four graduate schools give students advice on how to promote interdisciplinary perspectives in six cross-disciplinary research areas to realize a Smart Society

● Educational modules designed for flexible learning

- Students can choose their subjects systematically from given modules based on their own strengths and specialities to foster integrated knowledge and practical knowledge

### **Features of the Program** [https://www.hiroshima-u.ac.jp/en/smart\\_society/main-fields](https://www.hiroshima-u.ac.jp/en/smart_society/main-fields)

Education and research at the Graduate School of Innovation and Practice for Smart Society is centered on the six areas of research that have been highlighted as the main research fields for Society 5.0: Cyber Physical System, Smart Mobility, Smart Energy, Smart Agriculture, Global Health and Medical Science, and Social Innovation Science. JDS candidates can apply for one of the following five areas of these six areas above:

#### **(1) Smart Mobility**

This research area analyzes AI big data that combines various spatiotemporal real-time information transmitted and collected from moving objects, ranging from cars and public transportation to pedestrians, as well as historical data on driving behavior, traffic jams, CO2 emissions, accidents, and disasters. It also examines systems and planning for mobility associated with socially optimal solutions for regional economic development and quality of life improvements.

Through interdisciplinary collaboration with other research fields, this research area addresses topics related to practical scientific approaches, including MaaS system development in collaboration with regional medical care, operating sustainable modes of transportation using biofuels, and the development of methods for achieving consensus in policymaking based on traffic flow simulations.

#### **(2) Global Health and Medical Science**

This research area work examines topics in international medical health related to the concept of Society 5.0 and rooted in the “healthy lives and wellbeing for all” SDG, through collaborations with other research fields.

This research area engages in regional issues with a global perspective, is based on the most recent trends in science and technology, and examines research topics that can contribute to the realization of smart societies, including new medical and health-related policies in other countries, telemedicine and remote rehabilitation using ICT, rehabilitation using robotics based on engineering methodologies, and the use of robotics in social care.

### **Necessary Curriculum to Obtain the Degrees**

[https://www.hiroshima-u.ac.jp/en/smart\\_society/curriculum](https://www.hiroshima-u.ac.jp/en/smart_society/curriculum)

To obtain a Master’s degree, JDS Fellows need to satisfy the following requirements:

Minimum of 30 credits through program work;

Submission of a master’s thesis.

All students need to decide a research topic and supervisors (one head-supervisor and two sub-supervisors) at the beginning of the first semester. Under the head-supervisor’s advice, students will choose subjects to enroll and start preparations for a master’s thesis.

List of subjects to be offered in 2024 academic year is attached. After enrolment, students are required to take courses according to their research topics in consultation with their supervisor.

(URL: [https://momiji.hiroshima-u.ac.jp/syllabusHtml\\_en/2024\\_EE\\_en.html](https://momiji.hiroshima-u.ac.jp/syllabusHtml_en/2024_EE_en.html) )

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

[https://www.hiroshima-u.ac.jp/en/smart\\_society/faculty](https://www.hiroshima-u.ac.jp/en/smart_society/faculty)

Students need to decide their research topic and supervisors (one head-supervisor and two sub-supervisors) at the beginning of the first semester. Under the head-supervisor’s advice, students will choose subjects to enroll and start preparations for their master’s thesis.

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### 【Smart Mobility】

Position	Name	Research Subject
Professor	FUJIWARA, Akimasa	Transportation planning methods, evaluation of transport policies, and sustainable development and transport
Professor	FENG, Tao	Urban planning, smart mobility, travel behavior, transport network analysis, data driven technology, mobility in built environment, spatial planning, urban environment analysis, decision making in smart energy, big data & machine learning for urban research
Professor	CHIKARAISHI, Makoto	Smart urban infrastructure, transportation planning, urban planning, travel behavior analysis, travel survey design, transport network analysis, resilience research, risk analysis
Associate Professor	KASHIMA, Saori	"Environmental Health Science Research" on environmental factors and human health, and "Environmental Epidemiological Research" for engaging "Planetary Health"
Associate Professor (Special Recognition)	SEIKE, Miho	Large enclosed-space fire safety: evacuation behavior, disaster prevention plan, thermal fume behavior, risk analysis, decision making of evacuation start

### 【Global Health and Medical Science】

Position	Name	Research Subject
Professor	KUBO, Tatsuhiko	Health Emergency and Disaster Risk Management: Social systems including health policy and health administration to protect health during health emergencies and disasters; Information Management of the Emergency Medical team including the WHO EMT Minimum Data Set/J-SPEED.

## Academic Schedule

(Reference)

### **Fall Semester (October 1 - March 31) <In case of the schedule in AY2024>**

October 1	Entrance Ceremony, Orientation
October 3 - February 5	Classes
Early October	Deadline of Class Registration
Mid October	International Student Orientation (University-wide)
November 5	University Anniversary Day
December 26 - January 5	Winter Vacation
February 6 - March 31	End-of- Academic-Year Holidays

### **Spring Semester (April 1 - September 30) <In case of the schedule in AY2024>**

April 1 - April 7	Spring Vacation
April 8 - August 1	Classes

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Mid April	Deadline of Class Registration
End of July	Thesis Submission
Early-August	Thesis Defense
August 2 - September 30	Summer Vacation
September 20	Graduation Ceremony

**Facilities** <https://www.hiroshima-u.ac.jp/en/centers>

### **Residence**

We provide apartments for international students at a reasonable rent. Students can get support in English from Hiroshima University Co-op when they apply for the apartments, have troubles and so on.

Also, a public apartment called "Sun Square Higashi-Hiroshima" is available to international students.

### **Library**

Our library has nearly a collection of 30,000 titles of books and journals. Our collection is mainly focused on economics of development, education development, international relations and Asia regional culture development. "World Bank Information Kiosk" is placed for the purpose of introducing active discussions in academic area about the policy and actions of the World Bank. Students can access to "World Development Indicators Online" in our library. Flag ship publications, project reports, brochures and publications from the World Bank Tokyo Office are also available.

JDS fellows have full access to 5 other libraries on campus which has approximately 3,300,000 materials in its collection. Holding a huge collection of books and electronic journals, with a total combined area of 26,000 square meters, Hiroshima University Library System comprised of 5 libraries is one of the largest in the country.

### **Other facilities**

Within the campus, we have welfare facilities such as various cafeterias, a travel agency office, stores, book shops and a barber shop. Hiroshima University also has a post office and university health service center on the campus. The International Center provides mental counseling service to international students in English.

## ***Message for Applicants***

Japan has an excellent track record in the technologies and operations that make up social infrastructure, including railroads, airports, water and sewage systems, telecommunications, and cyber technologies.

A safe, secure, and peaceful society is also a hallmark of Japanese society.

Society 5.0 is the future sustainable society that Japan is aiming for.

The Graduate School of Innovation and Practice for Smart Society was newly established for the purpose of education, research, and human resource development to realize the vision of Society 5.0, and to share it with the world.

Due to the strong demand for human resource development to achieve this goal in today's global society, there are high expectations for the new graduate program, and it has received offers of collaboration and participation from stakeholders in various fields.

We look forward to receiving applications for admission from anyone around the world that is interested in joining us.