

## 1-2. Promoting a Digital Economy and Society

### **Kobe Institute of Computing (Private) Graduate School of Information Technology**

#### ◆ Program name

ICT Innovator Course, Master's Degree Program

#### ◆ Degrees:

Master of Science in Information Systems

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

40 credits, 2 years

#### ◆ Address:

2-2-7 Kano-cho, Chuo-ku, 650-0001 Kobe Japan



### **Features of University <https://www.kic.ac.jp/eng/>**

Kobe Institute of Computing was ranked #1 in 2017, among 530 Japanese private universities, in terms of the indexes like sustainability and financial soundness. It is also selected as one of 10 universities in the world where you can study ICT4D, and for the Japan/World Bank Joint Graduate Scholarship Program (JJ/WBGSP) for the 2020 and 2021 academic years. Moreover, KIC received the 15th JICA President Award Commendation in 2019. You will acquire skills and methods to solve those social issues using ICTs by studying with us. Our objective is to generate an active network of innovators. To develop the latest knowledge into practice, KIC has set up a subsidiary called Swift Xi Inc. which provides solution service using the most advanced VTOL Drone. You can study cutting-edge with us.

In addition, our student community has a lot of activities. All the professors and office staff speak English, and some of them are fluent in French at the same time.

KIC is in the center of Kobe, City of Design by UNESCO. Not far from the famous commercial city Osaka and historic city Kyoto, Kobe is very rich in cultural diversity.

#### **Whom do we train?**

##### **Those thinking about skilling-up**

We train ICT professionals to become ready to face any challenge in two years.

##### **Problem solving utilizing ICT**

Graduate students and engineers are already in the workforce in various fields.

##### **People of society**

Learn the necessary skills and know-how to advance into the future.

##### **International students**

To advanced ICT engineers active in Japan.

### **Features of Graduate School**

#### **'REAL-WORLD' LEARNING**

Kobe Institute of Computing (KIC), Graduate School of Information Technology, is just a short walk from Sannomiya Station in the center of the beautiful city of Kobe. KIC introduces a program to produce 'work-ready' professional ICT personnel who, regardless of their previous field of education or prior work experience, are prepared for professional roles in the ICT industry. The program curriculum is progressively structured in a way that proceeds from foundations to application & practice.

#### **ENTERPRISE**

##### **Social Innovation & Development, with International Cooperation through ICT.**

We foster highly motivated individuals who can work in various fields, including engineers to develop software, build information & communication networks, create embedded software, construct and design various information

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systems. KIC graduates are capable of development management as ICT architects and project managers and can contribute to international cooperation & social development through information communication technology (ICT).

### TRAINING FOCUS

#### Our Two Targets for Student's Training.

1. Professionals who can provide technical solutions to social issues by the design and maintenance of new systems using their ICT skills.
2. Profoundly insightful experts who can demonstrate leadership in problem-solving practice, with the cooperation of ICT technicians.

#### Acquisition of practical ICT knowledge and skills

To develop skilled professionals, our faculty consists of experienced corporate pioneers from companies such as SONY and Panasonic who cooperate with a variety of researchers and education experts, to instill practical capabilities through group work, and simulated projects.

#### "Takyu" - Development of the ability to discover and resolve issues -

For challenges in the real world, various factors challenge progress, and for such problems, you need to have the power to discover their essence. In the curriculum of KIC, you develop this power through the "TANKYU Practice" exercises and "Specific Theme Research."

#### Learning international cooperation and social development utilizing ICT

By taking ICT and social development-related lectures and working on solving actual issues besides government-sponsored students from developing countries, it is possible to learn international cooperation, social development, and social innovation.

#### Part of a global community

KIC is actively developing academic agreements and cooperation with various institutions both in Japan and overseas, to create a productive educational environment that promotes developing advanced ICT human resources, which can be successful internationally.

## **Features of the Program**

#### "Social innovation by ICT and yourself."

KIC has come up with the first program in Japan to develop human resources capable of solving social problems in practice, using ICT technology.

#### Education from methodologies to practical techniques by experts in international development and ICT

Through the lectures and exercises at KIC, the students learn how to apply ICT to international cooperation, social development, and innovation. While living in Japan, they participate in group works to solve real-world problems with many international students from countries such as Africa, Central Asia, and South Asia.

This course teaches practical ICT and technologies along with real-world know-how related to ICT4D (ICT4D = social development using ICT).

The course is aimed at students from developing countries as well as Japanese students intending to work overseas. After completing the program, students can expect to work not only for NPOs, public institutions and as social entrepreneurs at home and abroad, but can also find employment in global companies, to play an active role in a wide range of fields.

#### Course's Key features

- The all classes are conducted in English
- The curriculum is designed based on the "TANKYU Practice."
- Joint courses with the Japan International Cooperation Agency (JICA) take advantage of their ICT4D know-how.
- Japan's leading experts in ICT4D contributes to the classes in addition to KIC faculty.
- This program is supported by partnerships with the governments of developing countries, JICA, other universities, and global companies.

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### **Real-World Based Projects**

This course consists of classes that aim at preparing students for actual projects. Such courses include system development through group work and Specific Theme Studies (STS). Within the STS, and under the guidance of faculty, each student experiences the proactive work of problem discovery, building hypothesis, introducing a solution, and testing it to verify its work. This course allows the development of ICT innovators who can develop a solution that leverages practical ICT technology and can demonstrate leadership of practical problem-solving.

### **Study Skills**

The ICT innovator course is a program where you can learn international cooperation using ICT, social development, and social innovation while in Japan. Students can earn credits in English for all classes and gain global communication skills. We also offer English academic writing classes for those who are not confident in their English. For ICT engineering courses, students can also earn credits in Japanese. You can learn from the basics without knowledge of ICT or international cooperation.

### **Students from Every Corner of the Globe**

We have a genuinely multi-cultural body of students studying at KIC. In addition to Japan, our students currently come from a total of 66 different countries in Africa, the Middle East, and Asia. They bring with them backgrounds at government agencies, international organizations, or as IT engineers in the private sector.

By joining us at KIC, you will meet new friends and add fellow professionals from a diverse range of countries and cultures to your growing professional network.

### **Experienced Practitioners**

KIC has a variety of teachers: not only the teachers who have served on the front line in the field of ICT but also the expert on ICT4D, Urban Planning, or International Public Policy with considerable experience based on the actual business at JICA, etc.

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

<https://www.kic.ac.jp/innovator/curriculum/subject/>

Students develop their skills through 'ICT' based 'Foundation subjects' and 'Core subjects' as ICT Engineering, ICT for Business Management and ICT for Social Development. Students can combine the knowledge and skills gained through these subjects and TANKYU Practice apply them to the Specific Themed Research, which lies at the heart of the university.

For each of the issues in Specific Theme Research, students are required to build and verify a hypothesis for providing new value using ICT technology. The students will also conduct a thorough investigation and discuss the results and implications.

On top of this, students will confirm the uniqueness of their solution by investigating similar solutions, as well as verifying the possibility of realization by investigating income/expense balance through cost simulation. The student's findings are completed as an action plan and written as a master's thesis.

### **Individual Subject Information**

#### **Foundation Subjects**

- Fundamentals of Linux \*Only Japanese
- Fundamentals of Computer Programming C \*Only Japanese
- Fundamentals of Computer Programming Python
- Fundamentals of Information Networks
- Introduction to Computer Software
- Issue Identification and Data Analysis \*Only Japanese
- No Code ICT Application
- Engineering Ethics

#### **Core Subjects (ICT Engineering)**

- Web Application and Database
- Advanced Software Development \*Only Japanese
- Software Development Exercises \*Only Japanese
- Linux Applications

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Advanced Computer Programming Java \*Only Japanese  
Advanced Computer Programming C \*Only Japanese  
Image Processing and AI Utilization \*Only Japanese  
Data Science \*Only English  
Data Science Exercises \*Only English  
Advanced Information Network  
Artificial Intelligence  
Artificial Intelligence Exercises  
IoT Development  
Information Security

### Core Subjects (ICT for Business)

Project Management  
Requirement Analysis and Design  
Requirement Analysis and Design Exercises \*Only Japanese  
ICT Business Strategy  
ICT Business Case Exercises  
Startup Business \*Only Japanese  
Business Process Management \*Only Japanese  
Business Process Exercises \*Only Japanese

### Core Subjects (ICT for Social Development)

ICT4D Exercises 1 \*Only English  
ICT4D Exercises 2 \*Only English  
Social Development \*Only English  
Generative AI Application and Perspective  
International Development Cooperation \*Only English  
Japan's ODA  
Practice of Creativity Development  
Leadership Development Exercises \*Only English

### Core Subjects (Takyu Practice)

Takyu Practice  
Specific Theme Study A  
Specific Theme Study B

### Non-credit Subjects

Japanese Language Lessons  
JLPT Preparation Course  
Business and Academic writing in practice

\*The above subjects and structures are subject to change

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

<https://www.kic.ac.jp/eng/faculty.html>

The following is a list of faculty members for ICT Innovator course as of June 2025. After enrollment, a supervisor will be assigned to each JDS Fellow in February.

Name	Title	Supervising	Lecture
SUMITANI, Toshiki	President		□
FUKUOKA, Kenji	Acting President		
NAITO, Tomoyuki	Vice President / Specially Appointed Professor		
TSUCHIDA, Masayuki	Dean / Professor	□	□
TAKAHARA, Toshiro	Specially Appointed Professor	□	□
MARKON, Sandor	Professor	□	□
YAMANAKA, Toshiyuki	Professor	□	□

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ITO, Mamoru	Professor	□	□
OKUDA, Ryosuke	Professor	□	□
HIRAISHI, Teruhiko	Professor	□	□
IWAMOTO, Hisashi	Professor	□	□
KOYABU, Yasuaki	Associate Professor	□	□
SUN, Yi	Associate Professor	□	□
SOKOUT, Hamidullah	Assistant Professor	□	□
SHIMA, Hisato	Specially Appointed Professor		□
MIYAMOTO, Yukinobu	Specially Appointed Professor		
SUGIYAMA, Ikuo	Specially Appointed Professor		
YAMANAKA, Atsushi	Specially Appointed Professor		□
YOKOYAMA, Teruaki	Specially Appointed Associate Professor		□
TAKEUCHI, Tomonari	Visiting Professor		
KOSHIO, Atsushi	Visiting Professor		□
ODA, Masato	Visiting Professor		
KANO, Tsuyoshi	Visiting Professor		

### Academic Schedule

#### KIC regular schedule of fall entrance student. (Tentative schedule)

##### Term

A full academic year in KIC consists of 6 terms. The length of the term is approximately 2 months.

Autumn 1: Oct. and Nov.

Autumn 2: Dec. and Jan

Autumn 3: Feb. and Mar.

Spring 1: Apr. moreover, May

Spring 2: Jun. and Jul.

Spring 3: Aug. and Sep.



##### Holiday

Winter Holiday (approximately 2 weeks)

Summer Holiday (approximately 1 week)



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### Entrance and Graduation

Entrance Ceremony : October

Graduation Ceremony : September



### Presentation

- Research Outcome Seminar (Specific Theme Study A) Jul. of the 1<sup>st</sup> year
- Research Plan Seminar (Specific Theme Study B) Nov. of the 2<sup>nd</sup> year
- Midterm Evaluation Presentation (Specific Theme Study B) Jun. of the 2<sup>nd</sup> year
- Final Presentation (Specific Theme Study B) Aug. of the 2<sup>nd</sup> year



### **Facilities**

#### Lecture Room

It is equipped with facilities which enable distance learning from overseas. There is also a lecture room for group work which suits active learning.



#### PC Laboratory

This lab is used primarily to study Open Source Software (OSS), programming, and networking classes. To provide ICT education with OSS, we have installed the Linux OS on each PC in the lab.



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### Library

The library is furnished with hundreds of English books. It has a variety of books on ICT and social development.



### Seminar Space

Students can work on their research in a group with other laboratory's members.



### Free Study Space

All the booths are separated by partitions so that students can work on their research and study without distraction.



### Foyer and Sonic Hall in the Kitano Building

The Foyer has a capacity of about 100 people for special lectures and workshops. Sonic Hall can be used for various kinds of events with a capacity of 300 people. Internet broadcasting is also available.



### Local area network access

It may be used for activities listed below.

- Communication with KIC faculty
- Transmission of the data for classes and research activities
- Information searching via the internet for research purposes
- Other activities that are considered necessary for academic work

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### "Moodle" system for the class's operation aid.

It is a multi-functional application and covers a broad range of class activities such as course registration, class schedule check and submission of assignment.

### ***Message from KIC Alumni of JDS program for Applicants***

**Phyu Phyu Thwe**

**The Republic of the Union of Myanmar**

Across the globe, it has become popular to apply ICT as a tool to solve social issues because ICT can enable social solutions to reach many people. But most ICT4D projects failed and were unsustainable because of poor project formulation. So, it becomes crucial to understand not only how to apply ICT as an enabler but also how to formulate successful and sustainable ICT4D projects.

At Kobe Institute of Computing (KIC), Prof. Toshiki Sumitani, President of KIC Professor, offers 'Takyu Practice' to be able to solve social issues with ICT technology. And also, KIC mainly provides JICA's ICT4D know-how for project formulating skill, and it is conducted by JICA's leading experts in ICT4D projects. In 2nd year, it enables students to apply ICT technology as an enabler, problem solving skill and project formulating skill in their Specific Theme Study Research to be able to understand how to apply them in practice.

In addition, Professors are giving hands to students to speak out as a leader and encourage them to improve their thinking skills. Students who are learning at KIC, are from different backgrounds, and from different countries. Some students are from the private sectors, some from the public sectors, some worked as volunteers for JICA's international development activities. So, it is an excellent opportunity for knowledge and culture exchange.

As KIC is located in the down-town area of Kobe, everywhere can be easily accessed. It takes only half an hour to get to modern city-Osaka by train. Those who are interested in Japanese culture and history can visit Kyoto, and it takes only about an hour by train from Kobe. And also, Japanese food is delicious and nutritious. So, we don't need to worry about food.