

# Experience Report Japan

## Keio University



Summer Semester 2022

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## **Application Phase**

All relevant details regarding the application process can be found on the TUM SOMex website. I recommend that prospective applicants review the application requirements (e.g., language proficiency, extracurricular engagement, and grade point average) about a year in advance to leave enough time for preparation. After successfully applying for TUM SOMex, you need to directly apply at Keio University. All required application documents (such as a short-term international student application form, course registration plan, and application for Certificate of Eligibility) are listed on Keio University's website. Once you have prepared and submitted them via the online application site, you will receive a notification result via email after about 2 months. You can again find all important dates such as the application deadline and the date of the notice of results on Keio's website. I found it helpful to note them down to keep track of my tasks.

## **Preparation**

### *Impact of COVID-19*

I had originally planned my semester abroad for the winter semester 2021/22. When Keio University sent me the acceptance notification in May 2021, Japan was still maintaining its COVID-19 entry ban on foreign nationals. So, I was informed that the format of the exchange program (on-campus or online) would be decided later. In July, the update was that a final decision regarding the implementation was still difficult considering the border restrictions and that an online format was likely. In the hope of entering Japan, I decided to defer my exchange semester to summer semester 2022. My deferment was officially approved in September. A reapplication at Keio University was not necessary.

### *Visa*

Fortunately, the Japanese government relaxed entry restrictions in March 2022 and I was able to proceed with my visa application. First, I had to register my information and upload required documents on a webpage called AMARYS. Then, Keio University would use the information collected on AMARYS for my registration on the Entrants, Returnees Follow-up System (ERFS). Several days later, the university uploaded a Certificate for Completion of Registration and another document called Petition on AMARYS. These two documents were needed for my student visa application at the Consulate General of Japan in Munich (along with other documents listed on their website). The application process was smooth. After submitting all required documents, it took around 12 days to obtain my visa.

### *Accommodation*

Keio University has several dormitories where international students can live. When you directly apply at Keio University through the online application site, you can indicate whether

you want to live in a Keio dormitory and rank your dormitory preferences. For my first preference, I selected Shimoda Student Village (roughly 470€ per month), to which I was also allocated in the end. However, I canceled my dormitory allocation after deciding to share an apartment with a fellow student, which reduced my monthly rent to roughly 310€. We found our apartment through the website Leopalace21, which provides accommodation for short and long-term stays, work, study, or travel in Japan's major cities like Tokyo and Osaka. English service is available, so even as an international student with limited Japanese language skills, it would be possible to book an apartment through Leopalace21. Generally, I still recommend staying at a Keio student dormitory because it is likely to be cheaper than renting a single apartment by yourself (if not shared) and offers more opportunities to make friends. Some students who stayed at Shimoda Student Village, which is known to have a lively community of international students, seemed to really enjoy it there. However, if you are planning to stay longer in Japan (e.g., to conduct research), Leopalace21 could be an option to consider for the time after your student dormitory stay.

### *Financing & Scholarships*

For financing your stay in Japan, there are unfortunately limited scholarships available. Keio University will apply for the JASSO scholarship on behalf of incoming exchange students. However, it seems to me that chances are generally quite low. You will be notified of the scholarship application result in the acceptance email.

## **Arrival**

### *Airport & Transportation*

From Munich, you can choose to fly with Lufthansa or All Nippon Airways (ANA). International flights to Tokyo land at Narita or Haneda Airport. Because Narita Airport is located in Chiba prefecture, the outskirts of Tokyo, it takes around 2 hours to arrive at the Keio student dormitories. Trains that connect the airport to the city are the Narita Express and the Keisei Skyliner. Haneda is much closer by comparison and is the more convenient airport to fly into. It is located south of central Tokyo, from which it takes around 1 hour to get to the dormitories using the Keikyu Line and Toyoko Line trains. Also, be sure to check the check-in date and time of your student dormitory and schedule your flight accordingly.

### *Registering Your Residence*

It is necessary to visit the local ward/city office soon after you arrive in Japan to register your place of residence (住民登録), apply for a certificate of residence (住民票), and apply for National Health Insurance (国民健康保険). For the registration, you will need to bring your passport and your residence card, which is handed to you when you go through immigration at the airport. At your ward/city office, you will need to fill out an application form. When I went to my ward office, it happened to be Golden Week, which is a collection of four national

holidays within one week at the end of April to early May. Thus, many people were at the ward office, which led to longer waiting times. Also, not all ward offices will have staff that speak English well. I personally found it helpful to remember some of the above Kanji and words before going.

### *Health Insurance*

As mentioned, joining the National Health Insurance sponsored by the Japanese government is required. At your local city office, you will receive your health insurance card upon joining the plan. I recommend keeping your insurance card as well as your residence card with you at all times. When receiving treatment, you only need to pay 30% of the medical charges. The remaining 70% will be covered by the National Health Insurance. The monthly premium of the insurance is around 1,500 yen, which you can pay at any convenience store like 7-Eleven or FamilyMart.

## **Studies**

### *Course Registration*

The Graduate School of Science and Technology offers a Research only Program, a Research and Courses Program, and a Courses only Program. Which one to choose depends on your interests and goals. If you want to work on a research project at one of the labs and interact with students and professors in a more personal space, you can consider the Research only or Research and Courses Program. Otherwise, the Courses only Program is a good choice. Here, you are required to register for at least 7 courses, including Japanese language courses. One important tip is to register for all the courses you find interesting because you cannot add courses after the registration deadline. I personally decided on the Course only Program in my application.

### *Course Choice*

I took the following 7 courses: Cognitive Robotics, Web Intelligence, Computer Architecture, Design of Physically Grounded Communication System, Mixed Reality, Advanced Course in Database Systems, and Machine Intelligence.

The course Cognitive Robotics introduces fundamental concepts, methodologies, and recent research topics related to building intelligent robots inspired by human cognitive capabilities. It also touches on topics like deep learning, robot learning, and computational psychiatry. Evaluation was based on an intermediate assignment (programming and written report) and a final assignment (presentation). I personally found this course to be very interesting and would recommend it.

The course Web Intelligence is effectively about human-agent interaction: understanding agents from an artificial intelligence, philosophy, and cognitive science perspective, agents in

the real world (e.g., robots, design of real-world dialogue), agents in the virtual world (e.g., in the metaverse), the trade with agents (e.g., game theory), and the social design of human-agent interaction (e.g., taking into account ethics and social issues). Evaluation was based on weekly reports and a final report. This course was one of my favorites because you have the opportunity to discuss the lecture content with other (Japanese) students, which I found to be a rewarding experience.

In Computer Architecture, we learned techniques of parallel architectures including shared buses, snoop caches, synchronization, interconnection, consistency models, and message transfer mechanisms. The course also introduced advanced computer architecture concepts such as domain specific architecture, low-power design, and quantum computers. Evaluation was based on weekly assignments (knowledge-based questions or programming).

The course Design of Physically Grounded Communication System is essentially about understanding and designing the interaction between robots and environments. Specifically, it explains mechanisms used for real world communication systems and touches on the role of agent intention. We had to create an animated video that showcases the intentional behaviors of an agent and present it to class. The animated video, presentation, and a final report all counted toward the final grade.

The course Mixed Reality covers concepts in tracking technology, projector based spatial augmented reality technology, and multi-modal applications. It also touches on the business, robotic, and medical application of mixed reality technology. In teams of 4 or 5, we had to build a novel and practical mixed reality application and present it to class. Evaluation was based on this group presentation and an individual report summarizing the group project. Personally, I enjoyed this class a lot and would highly recommend it, as you get to develop practical skills through a hands-on project while interacting with other students.

In Advanced Course in Database Systems, we reviewed the shortcomings of the relational data model and learned about several non-relational data models. In the latter half of the course, we studied distributed ledgers and NoSQL/NewSQL through hands-on training. We then applied the contents taught in class to our final group project. Evaluation was based on 2 reports, the group project, and group presentation.

The course Machine Intelligence introduces the basics of machine learning, deep neural networks, deep learning for speech/image/natural language processing, multimodal learning, and advanced topics in intelligent robotics. Evaluation was based on attendance, class participation, and a final group project. In this project, we had to build a useful and original machine learning application and present it to class. It was quite rewarding to come up with an idea and turn it into a tangible product. It was also very interesting seeing how other students executed their ideas. Overall, I highly recommend this course!

### *Online Teaching*

When I arrived in Japan at the end of April, it had already been 3 weeks into the spring semester. Up until then, I attended the classes online from Germany. Although my courses were mainly conducted in-person, instructors would provide a Zoom link to the live lecture or the lecture recording on the university's course management platform K-LMS (similar to TUM-Moodle). There, I also found all the course material including lecture slides and assignments. The only thing I found challenging during this time was the time zone difference between Germany and Japan, as I sometimes had to wake up in the middle of the night for class. Also, attendance is handled differently in each course (it could be part of the evaluation), so it was important to me to attend the live lectures to understand the structure of each course. After my arrival, I attended some of the classes in-person and some online.

### *Evaluation & Exams*

To sum up, the final grade in a course is typically based on (weekly) reports, (programming) assignments, (group) project, and (group) presentation. Exams, whether online or in-person, do not seem to be common for courses geared towards international students.

## **Student life**

### *Campus & Facilities*

Keio University has several campuses in Tokyo and Kanagawa. The campus of the Graduate School of Science and Technology is the Yagami Campus, which is close to Hiyoshi Campus and Hiyoshi Station. Yagami Campus is rather small but has many facilities such as a library (with individual study spaces and group discussion rooms), student lounge, sports ground, tennis court, convenience store, and a cafeteria. For your lunch or dinner, I also highly recommend exploring the area around Hiyoshi Station, where you can find a variety of shops, cafes, and restaurants.

### *Student Clubs*

There are over 100 student clubs or so-called "circles" that you can join. These range from tennis and dance clubs to Japanese tea ceremony and manga study groups. Typically, you can join by contacting the circle via email, Line, Twitter, or visiting the circle's meeting space. Some circles may only accept Japanese-speaking students, so be sure to check the membership requirements of the circles you are interested in. More detailed information about each circle can be found on Keio University's website.

### *Cost of Living*

In terms of average living expenses in Tokyo/Yokohama, you can expect to pay 800-1000€ (including Keio housing, food, medical insurance, public transportation, mobile phone, etc.)

per month. A note here: groceries in Japan can be more expensive than groceries in Germany. Especially, dairy products, fruit, vegetables, pastries, and bread tend to be expensive. On the other hand, typical Japanese products like tofu, rice, onigiri, bento boxes, and cup ramen are much cheaper. Also, I recommend shopping at budget-friendly stores like OK Market and Lawson Store 100. Another tip is to buy groceries in the evening. From 6 to 8pm, many meals like bento boxes, sushi, and bread are reduced. Pay attention to discount stickers with 割引 (percent off) and 半額 (50% off).

## **Conclusion**

To sum up, I had a great time in Japan despite the ongoing pandemic. The courses at Keio University's Graduate School of Science and Technology added a well-rounded perspective to my management studies at TUM SOM. At the same time, the conversations I had with local students, the travels around Tokyo, and the hospitality of the Japanese people left me with a deep appreciation of the Japanese culture. I am thankful to have been able to call Japan my home for this short period and invite you to do the same.