

## Exchange Semester Report for Tokyo Institute of Technology

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**Study Program:** Young Scientist Exchange Program (YSEP)

**Timeframe:** September 2022 - February 2023

This report outlines my experiences as an exchange student from NTNU at Titech during a semester-long exchange program, focusing on the academic courses, housing, and living expenses.

### Technical (Courses)

I exchanged on my 5th year for half a year during the semester before writing my Master's thesis. The YSEP program practically acted as my specialization project, but this is not a given, and the allowed topic will depend on your professor.

Tokyo Tech has 4 quarters instead of 2 semesters, meaning shorter semesters with less depth but more variety. My exchange semester consisted of quarters 3 and 4 (Q3 and Q4). The YSEP project runs over both quarters. The ACAP program just focuses on courses. During the summer of 2022, the YSEP program changed from being a course in the school portal to being removed from there and only a thing between the student and their professor.

Note that the examination method completely depends on the professor, since the course they are lecturing is connected to their lab which they are in control of. Meaning it is not standardized, and examination will vary between classroom tests and reports. The core cybernetics courses are in English. Ask someone who's went the ACAP route for more info about other courses.

### Q3 - (October - December)

**Nonlinear and Adaptive Control:** Similar to TTK4150 but does not have the time to go too in-depth. The core is Lyapunov analysis and then the general content related to it.

**System Identification and Estimation:** Some concepts from TT4120 and TTK4115 (Kalman), with some extra content about identifying systems.

**YSEP Project:** Reading literature and building my project.

**Japanese:** Basic Japanese course.

### Q4 - (December - February)

**Computer Vision:** Introducing different computer vision technologies, theory and existing software. For my final project I used some existing open source software on a chosen object.

**Network Control Systems:** The theory behind connecting complex control systems. Many examples are taken from the power grid since Tokyo focuses heavily on smart cities on the cybernetics side (similar to how cybernetics at NTNU Trondheim has a heavy maritime focus).

**YSEP Project:** Writing my project, presenting it to my lab, and later on the exchange project group (All other YSEP students).

**Japanese:** Basic Japanese course continued.

### Housing

Tokyo Tech will assign their exchange students a room in a dorm if there is room. I was assigned to the Shofu Dorm in Aobadai. You will have no control over which dorm you're assigned to, and the pricing is tied to the dorm. My dorm was the one furthest away from campus (40min) but was much cheaper (2000-2500 NOK/month). The quality is good enough, and cleaning staff visited daily.

The other option is renting yourself if there is no room. This might get expensive, especially for me who would only stay 5-6 months, because you might need to pay a "gift"-fee in addition. I have no experience on this and would recommend asking in the ANSA Japan Discord server for tips about this.

### Financing

In addition to Lånekassen, NTNU supported me with their exchange stipend and I was granted a scholarship from the Sasakawa foundation. The Sasakawa foundation supports exchange and research trips between Scandinavia and Japan to strengthen their bonds. There are other stipends you can apply for, both from Norway and in Japan, so it is worth taking a look. Not only large institutions grant stipends. For example, check out personally funded stipends, or legacies (Norsk: legat).

### Other tips

Get to know your peers that are also exchanging since they are in the exact same situation as you, and most likely with similar interests, but from a different perspective. Get to know the locals by joining activity clubs at campus. I only have experience from the sports clubs (as do my closest foreign friends), and I got to know and spend time with some great people through the judo club on and off the mats.

For any questions, feel free to contact me :)

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