



## EXCHANGE REPORT

Name

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Year and semester for  
exchange

2024 autumn

Exchange university

Politecnico di Milano

Degree programme

Aerospace Engineering (TAEEM)

## A Not-So-Calm Break in Milan

### Before departure

I decided to apply for an exchange during the long, cold, and dark winter of 2023. Naturally, I sought universities further south than Stockholm that also had aerospace programs, hoping for a break from the dreariness. My top choices ended up being Portugal, France, and Italy. Unfortunately, the only viable option in France offered courses in French during the autumn, so that was out. I spoke with some people who did their Bachelor's in Lisbon, but they had mixed opinions. By process of elimination, Politecnico di Milano (Polimi) became my first choice due to its excellent course selection and strong reputation.

### Upon arrival

My first few weeks in Milan were rough, to say the least. Shortly after arriving, I came down with a high fever. Due to my illness and ongoing housing issues, I missed most of the university's introduction events, so I can't provide firsthand opinions. However, from what I heard, the events were well-organized and enjoyable.

### Financials

Rent is higher than in Stockholm unless you get very lucky. Grocery prices are comparable overall, though certain items, like vegetables and ham, are significantly cheaper. A student organization for Erasmus students, ESN (10€ fee), offers great events and discounts—especially for Ryanair flights. I highly recommend getting the public transport card for 22€/month, which was fantastic value!

### Accommodation

I had been warned about Milan's difficult student housing market, so I spent all spring and summer trying to secure a place beforehand. Unfortunately, this was unsuccessful, partly because landlords often required in-person meetings on short notice. As a backup, I booked one and a half weeks at a hostel near my campus (Bovisa Urban Gardens) to have a place while searching for permanent housing.

After many viewings and avoiding numerous scams (about one-third of listings were scams), I gave up on Facebook and similar platforms. Instead, I used a third-party service to find a room, though this came with a high fee. The result was a single room in a small, shared apartment with four other students, located about 30 minutes on foot from campus. Although the rent was high, 660€ per month, including utilities, I was fortunate to find a decent place, I heard from others that got much worse. The quality was liveable but nothing more. While Polimi does offer some student housing, I didn't meet anyone who managed to secure one of these spots.

## University and studies

Overall the quality of the courses I took were vary impressive compared to most I've taken at KTH. The lectures were all great at teaching (even if the relation between students and educators is very different compared to the informal and friendly you get used to in Sweden) with impressive depth to the content. My impression is that there is a higher focus on the theoretical at Polimi, meaning that it was sometimes a bit hard for me to follow. This paired with much more difficult exams made the experience a challenging one to say the least.

I took four technical courses, which I wouldn't recommend unless you're already familiar with the subjects, as I ended up spending nearly all my free time studying just to keep up. If you have a lot of lectures, expect long days—some of mine started at 8:00 and ended at 19:00. Also, their standard two-hour lectures don't include a break (some three-hour ones have a single break). In the end, I managed to stay afloat, but only barely.

## Courses

I took:

*Aeroservoelasticity of fixed and rotary wing aircraft (054229) [8 ECTS]*: The only course that was mandatory at KTH for me was aeroelasticity and this was technically the advanced course in that subject (the basic was only given in the spring). This was undoubtedly the most difficult course in terms of content, even when speaking with students who took the basic course they agreed. Luckily for me, the professor provided me with all the materials for the preceding course that I managed to cover in about 4 days of focus. The course consisted of a set of really high quality lectures covering a wide range of topics including, fixed wing + rotorcraft aeroelasticity, nonlinear analysis, pilot-aircraft-coupling, and a lot more! There were also a few labs/seminars held by the company Leonardo (famous for their helicopters), these were a bit chaotic and difficult to keep up with unfortunately, they did however claim to give an insight into how these things are analysed in industry. I hope to transfer the credits of this course to cover the one at KTH, but I haven't gotten the final decision on that as of writing this.

*Remote sensing for earth observation and surveillance (054224) [8 ECTS]*: I choose this course because I did not have the opportunity to study radars at KTH. This course also included some of the best lectures I've ever attended! That was lucky considering the difficulty of the content. The first ~1/3 of the course was a recap and some expansions on signals, probability, and estimation theory. Then the rest of the course was focused on radiometry and different kinds of radar systems (mostly synthetic aperture radar (SAR)). Besides the great lectures, we also got to learn how to apply the theory in Matlab; the professor even provided fantastic Matlab scripts for us that really helped with my understanding. There were a few different kinds of examinations to choose from, I went with the option that meant doing two sizable homework assignments and discussing a paper on the subject.

*Modelling and simulation of aerospace systems (097487) [8 ECTS]*: This course was largely a review of differential equations and numerical methods, with additional content on Simulink/Simscape and OpenModelica. The most interesting parts was learning how to connect numerical models in of different media: mechanical, electromagnetic, and fluid. If you enjoy numerical analysis, I'd recommend it, but don't expect a lot of new material. Since I was already familiar with most of the content, this was the course I spent the least time on, allowing me to focus more on my other courses.

*Aerodynamics of transport vehicles (057233) [6 ECTS]*: This course focused on vehicle aerodynamics (excluding aircraft). Once again excellent lectures and a few decent labs/seminars, but maybe not the most exciting content. Most of the course is vary theoretical but there is an option of doing a project (wind tunnel, CFD, or a combination) if you want some more hands on experience, but I found the support from the lecturers lacking in respect to the project.

### **City and country**

As mentioned, I didn't get to spend much time outside of studying. What little I did see was very different from southern Italy which I'm very familiar with. It often feels more like northern Europe in weather and even in culture sometimes. I spent 95% of my time around Bovisa in Milan which is far from a tourist spot and feels rather industrial; Polimi also has an old fancy campus downtown for other tracks. The tourist spots are more or less what you would expect for Italy, nice buildings, good but overpriced food, lots of people, etc. My favourite area became Navigli for its atmosphere and great bars frequented by students. If you have the opportunity I would recommend utilising the big train stations in Milan that can get you to lakes Como and Lugano (highly recommended), or even Genoa or Venice (I didn't have the time, but others speak well of both places). At the uni the biggest cultural difference I found difficult to adjust to was the formality expected when dealing with professors and lecturers.

I at least got my wish of escaping Stockholm's climate! The weather was apparently warmer than normal the time I was there, seldom going below zero Celsius with rain at worst. Daylight felt significantly longer helping with the long school days.

### **Leisure and social activities**

Disappointedly, nothing else to add here for me.

### **Sustainability**

Getting to and from Milan starting in Stockholm was insanely cheap with Ryanair (~55€ including return trip from Milan Bergamo), this meant that taking trains (~300€) was not financially an option for me at the expense of sustainability. Thankfully when in Milan there is great coverage using electric buses and trams to make up slightly for the plane trips. Between cities you can often find cheap train tickets that I wish I could have taken a bigger use of.

### **Other recommendations and observations**

My final recommendations are once again: be ready for a difficult housing market and make sure to choose courses so that you have some free time.