

The background of the cover is a scenic mountain landscape. The top half of the image is a sky with a gradient from light blue to a soft red/pink, with some white clouds. Below the sky, there are mountain ranges. The bottom half of the image shows a valley with a green, grassy slope on the left and a forested mountain on the right. The text is overlaid on the red-tinted sky area.

My EPFL experience

semester of studies en Suisse romande

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STUDY PROGRAM: ENGINEERING PHYSICS AND MATHEMATICS

EXCHANGE AGREEMENT: BILATERAL:

ÉCOLE POLYTECHNIQUE FÉDÉRALE (EPF) LAUSANNE - AALTO SCI

Exchange semester: spring 2018



1. Preparation

Before the exchange there are some things that should be taken care of to ensure a smooth transition. The housing situation in Lausanne is very tight, so this is something that should be looked into quite well in advance. The local student housing associations/foundations may also accept applications only at a certain time. I managed to get in a couple of applications at the set times and did end up receiving an offer from FMEL, the local HOAS, but only about a week before I left for Switzerland. Some other exchange students have found housing through e.g. facebook groups.

It is also easier to ensure you have certain required documents with you before you leave for Switzerland, but more on that in the next section. Both of these topics are covered rather comprehensively on the EPFL website, so that is a good place to go to look for information.

1.1 Bureaucracy

Switzerland is a very organised country and despite the fact that smaller regions, i.e. cantons and municipalities, may have more freedoms to arrange their own procedures, the approach to official matters is very similar to Finland. The system is respected and rules adhered to. This means that arriving in Switzerland for an extended stay requires some paperwork. This needs to be taken care of within a set time period from the moment one enters the country. Students do get a residence permit without any extra formalities but they still need to provide a number of documents in order to do so. It is best to check the list of these from the EPFL website or even that of the municipality itself, but I remember needing a birth certificate (virkatodistus), rental contract, proof of sufficient financial means (i.e. bank statement), proof of studies, passport, passport photos and some cash.

Another piece of Swiss legislation that one does well to familiarise oneself with concerns health insurance. Switzerland has an interesting, albeit high quality, system of healthcare which consists mostly of a mixture of private service providers. Everyone staying in Switzerland for a certain length of time is also required to get a health insurance. For people coming from Finland the European Health Insurance Card is enough to cover this requirement, but you need to go present the card at the local health insurance office. They should send you mail to remind you, though.

1.2 Settling in

Getting your life running smoothly in a new country is always a process and takes some time. One does well to accept this. Personally I found that attending an intensive language course for a couple of weeks before the beginning of the semester allowed me to take care of some of the aforementioned bureaucracy, begin getting to know my surroundings and forming some connections with other exchange students, all this before the deadlines of studies kick in. The course itself was held by the EPFL Language centre and was one you had to apply for, and get accepted into, beforehand. I thought it was a good way to refresh my French skills and I enjoyed the informal, interactive style of teaching. The local branch of ESN (Erasmus Student Network) is a very active organisation that does a great job of organising welcome events for exchange students throughout their "Welcome week", before the semester starts. ESN also has other events during the semester, anything from parties to day-trips. I remember participating in e.g. a day trip to Sion, which included a hike and some winetasting and in a guided visit to CERN. They mostly publish information concerning these things on their facebook page.

EPFL also offers incoming exchange students an information session concerning practical details about studying there. In fact I believe they require you to attend that, understandably. The student services bureau is situated on campus and has answers to any questions you may have concerning your studies. They also respond to emails.



2. Studies

2.1 General info & Planning

The semester in Switzerland starts later than in Finland. My spring semester courses started on the 19th of February, but there was an information session on the previous week. However, as explained previously, I had arrived earlier for a language course. The semester also ends later when we include the exam period, which ended on the 7th of July. This is something that is good to realise as there isn't too much possibilities for changing exam dates or retaking exams.

EPFL offers generally very high quality education. Language and humanities courses may be easier to pass. Contrary to what I was used to, a lot of emphasis was put on the final examination, although some courses did have a project during the semester, which counted significantly towards the grade. Still, you do get a good amount of time to study for the exams, as the exam session is held some weeks after the courses have ended. I was able to find courses that I was happy with to study during my exchange. I studied mostly computer science, and found a couple of courses that had similar content to a course in Aalto. I was enrolled as a computer science student and at least at some point I thought I should have 2/3 of my credits from CS courses, but it seemed like EPFL allowed exchange students to choose from all their courses fairly freely, except from MTE (Management of technology) and Financial Engineering courses. Bachelor's level courses are taught mostly in French, but not exclusively. Master's courses are taught in English.

2.2 Courses I took

German Beginner (3 ECTS) This was a course offered by the Language Centre. To pass, regular attendance was required as well as creating a language portfolio which consisted of a few different types of assignments. I found this course useful, it was my first German course and I felt that it served that purpose well. In this course it was up to you how much effort you wanted to put in, which I felt was a useful way to teach the subject.

MATH-261 Discrete Optimisation (5 ECTS) This was my one maths course. It was the most theoretic of my courses and I might have benefited from having done more linear algebra than just the first course in Aalto, but the grading was heavily geared towards the exam with some extra points available for assignments, and with enough time to study I managed to get enough of a grasp of the material to earn a passing grade. The course material was

some algorithmic and linear optimisation problems and it was handled with applaudable mathematical rigour. Keywords: Algorithmic complexity, Linear programming, Simplex algorithm, Ellipsoid method, LP Duality, Graphs, Shortest paths, Bipartite matchings.

CS-322 Introduction to Database systems (4 ECTS) This was a computer science course with a nice practical undercurrent. The grading consisted of a project done during the semester as well as a mid-term and a final examination. The content covered database system design basics starting from a higher level conceptual view and continuing into a look at how certain aspects are realised. Keywords: Entity-Relationship model, Relational algebra, Query optimisation, Transaction management. I felt this was a useful course and I learned skills I will be able to apply later on.

CS-108 Pratique de la Programmation Orientée-Objet (en Java) (9 ECTS) This course was, for me, a get-to-know-Java-and-some-French experience. Which is what I expected from it, so I was happy with my choice. The grading consisted of a sizeable, well guided project as well as a mid-term and a final exam during the semester. The content covered basic Java classes (lists & collections etc.) as well as object oriented programming principles.

COM-102 Advanced Information, Computation, Communication II (7 ECTS) This course covered a broad spectrum of computer science theory. It consisted of three parts, namely: Information Theory and source coding, Cryptography basics, and Channel coding. All the theory was covered thoroughly and the mathematics behind it expanded upon, which I found pleasant. The grading method was quite tough: a final multiple choice exam with negative points for wrong answers. Homework assignments also represented a small percentage of the grade.



3. Life outside school

3.1 Overview

Switzerland is a beautiful country, but expensive. Even slightly more expensive than Finland. However, with good home economics it is totally manageable. Things work and people are helpful, staff knowledgeable, much like we're used to. In terms of culture, people in Suisse romande (the French-speaking part of Switzerland) may be slightly more sociable than in Finland, but they still respect your personal space. It is also a very safe country.

3.2 Daily Life

I lived outside of Lausanne, in a little town called Morges, about as far from campus as the centre of Lausanne but in the opposite direction. It was peaceful and had the feel of being almost countryside. The rent was also reasonable for the region, 550 CHF/month. For that I got my own room with an upper level sleeping area and a washbasin as well as a kitchen locker and a fridge compartment. Toilets/showers and kitchen facilities were shared between about half the building. The kitchen was quite busy at certain times of the day, but other than that the facilities were sufficient for the number of users. Common areas were cleaned daily by the staff. The distance to school was about 8km, a perfect distance to cycle, which I did. I had a second hand bike from the EPFL bike centre that I bought when I arrived and sold before I left.

Travelling

Travelling in Switzerland is very easy, you can always get close to where you're going by train and public transport coverage otherwise is also excellent. Tickets are easy to buy, you can get all the tickets from railway stations and there are ticket machines on nearly all bus-stops as well. Lausanne area also has an excellent public transport system, much like HSL, divided into zones. There are two metro lines, trains and buses.

Finances

Prices in Switzerland are quite comparable to Finland, though I cannot make very good comparisons as I didn't spend much time shopping. Groceries I can speak about, though. Here you can really save or spend depending on whether you are willing to think about it a little bit. Food on the whole is at least as expensive in Finland, but you can find some things for good prices. Generally speaking, meat is expensive (like, really expensive, and all meat) but vegetables and

fruits are readily available and at much better prices. Most dairy products we Finns are used to can also be found, and the country is known for cheese, so there is a good selection of that everywhere. There are also significant differences between different chains of supermarkets. Co-op tends to be the most expensive, but maybe has the broadest selection. Migros and Denner are fairly comparable, and also offer you good choices. Aldi and Lidl are probably the cheapest, but similar to Finland, don't have quite as many different options when it comes to some products. It is important to note that opening hours for supermarkets in Switzerland are a fair bit more restricted than in Finland and most large supermarkets will close already around 7pm. The ones on campus are open a bit longer. Don't count on doing your grocery shopping on Sunday either, as supermarkets are by and large closed. If you really need something, though, try the little railway-station ones.

Eating out is very expensive and annoyingly this also applies to a lesser extent to the university cafeterias, where a meal that you pay for with your rechargeable student card will set you back about 8 CHF. This being the case, a lot of students will choose to make their own lunch at home and then queue up during lunchtime to warm it up in one of the microwave ovens available around campus.

All this being said, I was able to afford my exchange without any major challenges. This was largely due to the scholarships available. I received the Aalto scholarship for exchange students as well as an external scholarship from EIS (Elektroniikkainsinöörien Säätiö). The Swiss government also grants European exchange students a scholarship.

3.3 Leisure

For any outdoor enthusiast, Switzerland is a fabulous country. It is easy to get to places of great natural beauty and usually they're not even far away. Swiss people also seem to be of the sportive, outdoorsy sort so there are good services for these activities. Skiing (downhill) in winter is of course very popular, but quite expensive. You have to hunt around a little bit if you want a cheaper ticket. In the summer, hiking is fantastic. The views are majestic and day trips are easy to arrange. There are also different kinds of terrain to visit. The Alps are a given, but close to Lac Léman (Lake Geneva) you can find agricultural landscapes and flatter areas as well. Jura mountains by the French border offer another less rugged alternative. Sleeping outside could be a bit more difficult as camping is not as widely allowed as in Finland.

The university sports centre has a lot to offer as well. They have open sessions of a range of different sports where any student can just go and participate as well as cheap courses for those who want to get into something in particular. I myself did a climbing course for beginners and took some windsurfing lessons. The sports centre also organises weekend trips for e.g. skiing but other activities as well.

Other than natural beauty, Switzerland has also a plenty of interesting cities and museums to visit. Once again, day trips are easy. What makes travelling in Switzerland very interesting are the different regions, as the country has four official languages and the regions where these are spoken differ somewhat culturally. Buy a train ticket and off you go. Museums usually give student discounts with the ticket prices for students a bit under 10 CHF, at least the ones I can remember. There are also often a number of festivals and other events going on around the country that can make for good experiences.

Switzerland is also very centrally located in Europe, which opens up some more travelling opportunities. Trip to Italy by train, for example. France is so close to Lausanne, you can even cycle there. Or take a ferry across Lac Léman.

3.3.1 Tips and tricks

There are certain little things that make life easier when you know them

- Demi-tariff: this pass costs some to acquire but will get you half price transport tickets on just about any public transport. Even the city transport (all but the cheapest tickets).
- Supersaver tickets: these are train tickets as we know them in Finland, i.e. for a certain train at a certain time. Sometimes you get really good deals if you buy them in advance.
- SBB mobile: this is not only the official app of the Swiss railways, but it allows you to buy tickets for almost any transport in the country. It also acts like HSL reittiopas, tells you the schedules.
- EPFL pocket campus: official app of the University. See your schedule, grades, lunch menus, print documents...



4. Final thoughts

I would definitely recommend EPFL as an exchange destination to certain types of students. It isn't really a place to go wild and party, though you can do a bit of that if it's what you're into. However, if you're looking for a place to study and learn a bit about a different European culture on the side, it is a great place. Also if you're considering a career in academia, here you'll find a number of like-minded individuals and you will have a chance to see a bit of what that life is like. Other than that, there are a whole bunch of tech startups here.

In terms of my personal development during my time at EPFL I would have to say it was definitely non-negative. Needless to say, I acquired the level of independence and learned the skills needed to live in a foreign country by myself, but that wasn't all. My French improved, in particular when it comes to reading, understanding and having the confidence to communicate with others. This being said, EPFL is a very international campus. There are lots of exchange students as well as interns and masters' and PhD students from all over the world. I also had a good chance to practice balancing my life with enough studies and enough time off and to focus on using the time I had in the most productive way possible. I also made some new friends and was put in previously unfamiliar social situations. I was e.g. given the chance to represent Aalto University in an event organised for outgoing EPFL exchange students. I also gained a deeper appreciation for the wonderful system of university education we have in Finland, which gives students a lot of liberty to make choices about their own studies.

All in all I would say that if you are looking for an academically challenging exchange destination which is fairly approachable in terms of culture and society, EPFL is a good place to consider.