Lausanne spring 2019

First thing I would like to say, going on Erasmus to Lausanne is an awesome idea! I had a lot of fun going there!

I chose EPFL because of the high quality of the university, it is one of the top ranked universities in Europe. There are a lot of research groups at the forefront of their field and everyone has a great motivation towards science and engineering. A difference with VUB is that there are a lot of academic events for students. This could be talks by researchers (sometimes Nobel laureates), conferences or the researchers of EPFL presenting their work. It really creates an inspiring environment.

Since I knew that EPFL was such a high-ranked university, I was a bit worried that my experience in Switzerland would only be studying a lot. In the end, this turned out not to be the case. I had plenty of time to explore the country, to meet new people and to go out. Most of this, I did with the students association ESN. They organize a ton of events where they explore the city, organize weekends to travel around Switzerland, or they organize an international lunch where everyone brings food from their country. They make sure you always know what to do when you are Erasmus. In the week before classes start, the organize a welcome week. A week full of fun activities to get to know your fellow exchange students. The good thing is that this week is right after the class free week in Belgium, when classes here start. Definitely something to check out!

As for the workload, it is true that it can be more than at VUB. But I also experienced that the classes were not that hard, just a lot. One main difference is the exercise sessions, the teaching assistants do not write the solution on the blackboard. You get the problem set and the assistants are there to answer all your questions. The full solution to the problems however, will only be made available online the day after. Therefore you have to constantly keep up with all exercise sessions during the year. In general, there are also more exercises each lesson than at VUB.

I only took up 26 credits in Lausanne to make my life somewhat easier. This was a good call, because there were lots of things I couldn't have done otherwise. I arranged to do an internship in summer as part of my external mobility, this was a good trade-off for an Erasmus semester with a bit less work. In Switzerland, I did the other part of my external mobility. I took up a TP IV project in one of their research groups. This is somewhat like a bachelor thesis, but only for one semester. All master students at EPFL are required to take up such a TP IV project. I personally contacted the Swiss Plasma Center to ask if I could do this. There are lots of other interesting research groups and they are always very glad to help interested students. It is an ideal opportunity to experience research at EPFL and to do work on a topic you love. Some cool physics research topics they do not have at VUB include nuclear fusion at the Swiss Plasma Center and space missions at EPFL Space Center.

Quantum Physics IV – 5 credits

This course was really cool! It introduced the path integral formulation of quantum mechanics. It was quite a hard course, that is why it is 5 credits instead of the usual 4 in Lausanne. It is very doable though if you are used to VUB physics courses.

Space missions and operations – 2 credits

This course gave an introduction to rockets, satellites and human space travel. The professor Claude Nicollier is an actual astronaut. In the course, he gives a lot of technical details about which rockets there are and also a lot of history about who went to space and when. It was a really interesting course. Also not very difficult, since it very descriptive.

Plasma Physics I – 3 credits

This course is given in the bachelor years, but you can still follow it as a master student. It uses classical electrodynamics to derive the main properties of the plasma state of matter. The professor explains the course very clear and interesting. It is great to see how passionate he is about his topic.

Particules elementaires II – 4 credits

This course corresponds to the obligated subatomic physics II course at VUB. It is fully given in French, including the course notes. As for myself, my French was quite bad before going to Switzerland, but I managed fine. The technical physics language isn't that difficult to learn and there is always google translate to help if you have problems understanding the course notes. I did the oral exam in French, but I also had the option to do it in English. I would say if your French is not that good now, don't worry. You can learn a lot in a semester.

Fundamentals of bio-imaging – 4 credits

This course covers all medical imaging techniques, like X-rays, CT-scan and MRI. What I liked most about it, was that it was something different from your average physics course. It was interesting to focus on the applications of the physical processes and to see how it can relate to real-life things.