



EXCHANGE REPORT

Name

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Year and term for exchange

2019W-2020S

Exchange university

RWTH Aachen University

Degree programme

Vehicle Engineering

Study in Germany: Nice Place but Hard Courses

Before departure

Going out for an exchange is a good opportunity to explore the world. Go to study abroad can make new friends and have a better knowledge of a new culture. Living in another country for a semester or more is a big difference comparing with traveling. Experiencing different cultures is my main reason to exchange. As a student of mechanical engineering or vehicle engineering, RWTH-Aachen University has a good reputation in this field. As one of the most famous engineering universities, RWTH can provide many courses with the latest technologies. As a vehicle engineering student, Germany is also very famous for its automobile industry. RWTH has an international course in automotive engineering. As a student who can only speak English and Chinese, RWTH is a proper choice.

Before going to RWTH, there is something you must prepare. Firstly, if you are a non-EU student, you still need to register at the Migration Office. The RWTH international office will help you. They are very nice people and will reply to all your problems in a short time. Moreover, studying in Germany needs health insurance. KTH will give you a certification of Swedish health insurance. But it is not enough, you need to apply for an EHIC-European Health Insurance Card. With the EHIC, you can apply for an insurance waiver in Germany. It is a little bit complex. Please ask for the help from RWTH international office. The RWTH has a program called BeBuddy. They will link you with a senior RWTH student. You can join this, your buddy can give you many tips about studying at here. Finally, practice German. The German people are nice and friendly, but their average English level is not good as Swedish. If you cannot speak German, it is a little bit inconvenient with daily life.

Upon arrival

Before the semester, there will be a welcome week for the new students. It will be held about 2 weeks before the new semester and it is in English. During this week, RWTH will organize a lot of activities to help you get familiar with the university. They will show you around the school. All the student clubs or unions will have an introduction. The school will send you a PDF about the welcome week, you can join this for better preparation. But it is not compulsory. After this week, there is another introduction week for each faculty. However, for machinal engineering, the introduction is given in German. I didn't join in due to my poor German. One more thing! Don't forget to register for the courses before the new semester. The procedures will be taught in the welcome week.

Financials

I received Erasmus scholarships from KTH. Living in Germany is cheaper than in Sweden. For example, a regular lunch in the school canteen is about 4 Euros. It is almost half than Sweden. The food price in the supermarket is also cheaper than in Sweden. As a German university student, you must pay the tuition fee of about 280 Euros for one semester. It will cover your transportation fee for the whole semester. The bus or train is free in the whole North Rhine-Westphalia. I always went to Kaufland to buy daily food. It is cheap with good quality. The nearest IKEA is in Netherland, it will take about one hour to go there.

Accommodation

The school will provide accommodation for the exchange student. You can ask for the help from RWTH international office. My dorm is near the medical school. It will take me about 30 mins to go to the heart of RWTH. However, the teaching buildings are located in all the corners of Aachen, the time for school depends on your course. The house is about 250 Euros a month. Inside the room, it is like the Lappis room. But for most German dorms, the toilet, bathroom, and kitchen are public.



University and studies

RWTH is much bigger than KTH. There is no campus as KTH, all the teaching buildings are located in each corner of Aachen. The room for most courses is at Audimax or CARL. It is near Aachen west train station. But there are some teaching building is about 15 mins away from the main buildings. Don't worry, there is an RWTH app which contains all the information about the course, including the room and time. It is like KTH Canvas. For the subject, RWTH also has more choices than KTH. For a vehicle engineering student, RWTH has its own big vehicle dynamic simulator. They also have programs that relative to automatic driving or EVs. There is more research topic than KTH, but the master level course is similar to KTH. It's a nice place to do the master thesis. You can ask RWTH international office for a course list.

Studying in RWTH is much harder than KTH. There are 14 teaching weeks per semester. For most courses, there are 2-hour lecture and 1-hour exercise per week. The lecture will last for around 12 weeks. For most tutors, the final 2 weeks will be used to answer the questions about the exam. One course is about 5 or 6 credits. Thus, you need to take 5 or 6 courses per semester. A regular day of study is very similar to KTH. The study load is close to KTH. For most courses, there is no program or assessment. This is a big difference compare to KTH. There is only one final exam. Thus, you must prepare well for the exam. The exam in RWTH is really hard. One reason is that the content of some courses is hard and too much. You need to remember so much knowledge. Sometimes, you need to memorize a 300-page book to pass the exam. Another reason is the exam time is limited. In RWTH, the final exam is only one or two hours. But the question is as much as KTH. Thus, you must practice the past paper very well. All the questions should be answered in a short time. It is really hard to finish the exam in time. All the knowledge must be ironed in your mind and can be sorted out quickly. The pass rate is about 30% for several courses. It is really hard. Thus, when you select the course, ask some senior students is useful.

I took the English course. Thus, my course choice is very limited. The most course of mechanical engineering is given in German. If you want to study German, before the semester, there is a German course. The RWTH international office will send you the link and information. It is not for the beginner. During the semester, there is also a German course. But it is not free. I didn't take it. My friend told me it is good. All the language courses are not free.

Courses

In RWTH, I took 5 courses and passed all the courses luckily. The RWTH and KTH have the same credit system, the ECTS. I want to study some courses about engineering management, which is RWTH famous for. Thus, I took two management courses. One is called Production Management A (5 credits), this course will teach you so many basic knowledge of production, such as lean production, industry 4.0, product planning, and material management. The course will cover so many recent examples. RWTH has its factory to build EV, which is a good example. The lecturer is experienced in

production. Most of them are the leader or manager of a real company. I transferred this course to Production Management and Development (ML2301). Another management course is Quality Management (6 credits). This course contains quality management among the product, production, and company organization. The course is held by RWTH and Fraunhofer IPT, which is a famous German research institution in the whole country. All the tutors have a strong industry background. You can learn so much useful knowledge about quality 4.0. I transferred this course to Quality Control (MG2033).

Another course is Control Engineering (5 credits). If you want to learn some basic control engineering knowledge, this course is the right choice. It will teach you the basic control theory, differential equations, SISO, and MIMO. I transferred this course to Automatic Control (EL1000). For most universities, this course is very similar. There is also one course named Environmental Sustainability in Transport Engineering (6 credits). It will cover so much knowledge to analyze the road traffic environmental impact. It has many aspects, such as air pollution, road surface design, and traffic noise control. This course has 2 parts. You will have a mini-thesis. You will choose a topic to write a report on and have a presentation in a group of 4. There is also a final exam. I transferred this course to Vehicle Dynamics Project Course Part 1 (SD2229).

The final course is named Automotive Engineering III (5 credits). This is a hard but useful course. This course is relative to vehicle safety, ADAS, and automatic driving. It also covers traffic management with new technologies such as V2X and future driving assistance systems. This is a nice course. However, to pass the exam, you need to memorize so many technologies and laws. There is a book with 300 pages, you need to remember most of it. Furthermore, the calculation in the exam is also very hard. I transferred this course to Traffic Engineering and Management (AH2171)

City and country

Aachen is a nice city. It is located at the border of Germany, the Netherland, and Belgium. The culture of Germany and Sweden is similar but not the same. Living in Germany, firstly, you have to know that all the supermarkets and shopping malls will close on Sunday. Only some small stores will open. So you must have some food left on Saturday night. Germany has so many pubs, the German people like to go to the pub at a weekend. The Christmas market of Aachen is also very famous, don't miss that. During holidays, the Aachen downtown is crowded. You must follow your friends closely. Finding them is a hard job. As mentioned before, German is nice, but sometimes you can only talk with them in German. It is not convenient, especially at the post office or ask road.

Leisure and social activities

There are many student unions or clubs in RWTH. However, many of them held activities in German. As a Chinese, I joined the RWTH Chinese student union. I made many friends there. If you love traveling. Aachen is a fantastic place to explore west Europe. It will only take you about 2 hours by train to Amsterdam or Brussels. The train ticket to Cologne or Dusseldorf is free. In school, there is a traveling organization. They will organize cheap trips to nearby countries, such as Switzerland and Netherland. If you like to travel, you can ask Aachen students about its website.

Other recommendations and observations

There is no big difference between Germany and Sweden. Living in Germany is not a big challenge for KTH students. But you must pay more attention to the course. Passing the course is not a simple thing in RWTH. If you decide to exchange to RWTH, I recommend you to play hard and study harder! Good luck to you. It is a really good university and a good city.