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**BEER, SAUSAGES, AND VOLKSWAGEN  
SPENDING A YEAR IN BRAUNSCHWEIG, GERMANY**

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**Faculty of Engineering**



Prepared by  
Garett Angus Overmars  
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# Table of Contents

Table of Contents ..... 1

The Idea..... 2

Learning the Language..... 3

Money..... 4

Term Scheduling ..... 5

Housing ..... 6

Arriving in Germany ..... 7

Travelling ..... 8

Academics ..... 9

Back In Waterloo ..... 10

Looking Back ..... 12

Links..... 13

Pictures ..... 14

## The Idea

My first thoughts of participating in an Engineering Exchange program came during my 2A academic term. At first, I wanted to go to Australia. I imagined a one-year vacation, spent surfing, scuba diving, watching rugby games, camping in the Outback, basking in the tropical climate, speaking with a funny accent, and doing a tiny bit of studying. Not only would it be a break from the Canadian winter and the DC library, it would be the experience of a lifetime!

Then I saw a poster advertising free coffee and doughnuts. A group of Braunschweig exchange students wanted to describe the UW-TUBS exchange program and the benefits of studying in Braunschweig, Germany for one year. The most convincing and memorable testimony was from a UW student who had just returned from Braunschweig. He admitted that he did not learn German as fast as he had expected, and eventually was forced to stay in Waterloo for an additional two academic terms to make up for the two semesters he failed to pass in Germany. However, he had no regrets and was thankful for the amazing experiences he had during his year in Braunschweig, and would do it again if given the opportunity.

I decided that if I was going to spend one year abroad, I might as well make the most of it and learn a new language. Studying in Europe is the perfect opportunity to live in a culture different from our own. Many Canadian university students anticipate backpacking across Europe after finishing their degree. However, studying at a historic German University provides a more in depth exposure to European culture and society than backpacking or travelling.



Shawn, Me, Erik, Chris. The Waterloo Engineers well into the German Beer.

## Learning the Language

According to the Engineering Exchange Website, all students wishing to take part in an exchange program abroad must:

- have sufficient ability to write and communicate well in the host language. This is usually equal to 3 university level courses or one high school graduation level (grade 12) course plus one university course.

I took my first German course at Humber College during my 2A work term, then German 102 during my 2B academic term, then a German course at the Goethe Institute in Toronto during my 2B work term. Having fulfilled the minimum language requirements, would I understand the professor in Germany?

No. The courses I took before going to Germany only covered basic grammar and vocabulary. Looking back, I learned as much in those three courses as I did in the first month in Germany. Learning a language is much easier when the people around you are always speaking that language, so try to make as many German speaking friends as you can when you arrive.

Also, I signed up for the one-month intensive German language course held at the university in Braunschweig during September and October. This course was one of the highlights of my year. I met new friends from around the world, and took many cultural trips around Germany with the class. Many of the students in the course were also starting an academic exchange at TUBS, and we learned German together and remained friends during the year.

Of course, to learn German I had to work hard, but I found learning German a lot more fun and rewarding than studying engineering! During the semester in Germany, I spent several evenings a week studying, which was much more than I had studied in Waterloo. By the end of the semester, I had read through each of the course scripts, and had translated the words that were new to me. At the beginning of the term, every second word in the script had to be underlined and translated. By the end of the year, I was able to put my dictionary aside and read through the script in German.

Also, I still remember my first few weeks of classes in Germany. I understood only a handful of words from the notes, and even fewer words from the professor's lecture. However, by devoting a few evenings a week to translating the notes, I understood more and more each week.

# Money

During my year abroad, I spent roughly \$1000 CAD/month. This budget included housing, tuition, travel, food, phone, and souvenirs. Considering I was saving the cost of two semesters at Waterloo (\$9000 in tuition alone!), going on the exchange to Braunschweig was quite affordable. I did, however, have to miss one of my Waterloo Co-op work terms. But it was worth it!

Germany uses the Euro. It is very convenient to travel in Europe, because many countries including Spain, France, Ireland, Austria, Italy and Holland use the Euro, so you don't have to exchange money when you travel. Credit cards offer very competitive exchange rates, and as long as I maintained a positive balance, my credit card didn't charge me a high service charge or interest on cash withdrawals. But be sure that you have a PIN for your credit card before you leave Canada.

Most of the money that I spent during my year in Braunschweig was borrowed from my parents. They deposited funds into my bank account, and I transferred the funds onto my credit card, so that I always had a positive balance. I opened a bank account with Deutsche Bank, and deposited the cash into this account, which I used mainly to pay my monthly rent. Any big purchases including tickets and clothing were charged directly to my credit card.



Me (left) spending some money on a liter of German beer at Oktoberfest/

## Term Scheduling

One of the first steps to organizing your exchange is organizing how you are going to fit in at least five work terms, and six academic school terms during your five years. This is complicated because the German university system has two academic semesters in a calendar year, beginning in October and in April. There are many different ways of arranging your work terms and school terms. Some students prefer to work a double co-op before they leave so that they have some money during their year abroad. I decided I would rather save my co-ops until after Germany. This meant that not only was I low on funds when I went to Germany, but I ended up doing four academic terms in a row, with some short vacations in between. My term sequence is shown below.

Fall 2002	Waterloo, Academic Term 2B
Winter 2003	4 <sup>th</sup> co-op term, 3 <sup>rd</sup> work report.
Summer 2003	Waterloo, Academic Term 3A
Fall 2003-Winter 2004	Braunschweig Term 1, 4 <sup>th</sup> year TE's, German
Summer 2004	Braunschweig Term 2, 4 <sup>th</sup> TE's, ME 353
Fall 2004	Waterloo, Academic Term 3B + 4 <sup>th</sup> Yr Dsn. Prj.
Winter 2005	5 <sup>th</sup> co-op, 4 <sup>th</sup> Work Report, Ready to Graduate!



# Housing

One of the final steps of preparing for the trip to Germany is selecting housing in Braunschweig. I decided that the easiest option would be to live in a German residence. The AKA office (international Students Office in Braunschweig) arranges housing for international students, which makes the process much simpler.

*Accommodation Help:* <http://www.tu-braunschweig.de/international/incomings/accommodation>  
*TUBS Residences:* [http://rzv097.rz.tu-bs.de/englisch/braunschweig/bs\\_wohnen\\_engl.html](http://rzv097.rz.tu-bs.de/englisch/braunschweig/bs_wohnen_engl.html)

The four most popular residences are APM, Weststadt, Michaelishof, and the Schunter. A room in any of the four residences comes furnished with a bed, a dresser or a closet, a desk, and a chair. Also, each has laundry facilities somewhere in the building. A room in any of the residences costs between 160 and 200 euros per month.

The APM is massive, with about 600 single rooms. Each room has a small kitchenette, and a bathroom with a shower. Even though APM is situated literally right next to the university, I wouldn't recommend it because of the isolation that my friends felt there. You don't really get to meet any other students in the residence because you do all of your cooking in your room, and there are no common areas where students can socialize.

Weststadt is located a twenty minute streetcar ride from the university, but is very close to the popular night club, Jolly Joker. The rooms are fairly large and new, and are arranged four bedrooms to a suite, with two bathrooms and a kitchen.

The two other Waterloo students from my year stayed at Michaelishof, located closer to downtown Braunschweig. The complex has some nice architecture, is close to the bars, and even has its own pub. Again, the rooms are large, and organized suite style.

I decided to stay at the Schunter. The complex has three nine-story buildings, each accommodating roughly 160 students. Also in the complex is a student cinema Schunter Kino (where I volunteered for a semester!), and a student bar, the Schuntille. Each floor has eighteen dorm rooms, which contain a desk, a sink, a bed, and a closet. The rooms are moderately sized, and have a very large window. Each floor shares two bathrooms, a large kitchen and a common room. Eighteen might seem like too many students to be sharing one kitchen, but with the varied schedules that students keep, the kitchen is never too busy. I liked the Schunter because of the large number of international friends that I met there. You have an opportunity to meet students from every continent in the world. However, there were also a lot of students there that seemed to stay in their rooms.

## Arriving in Germany

I left Canada and started my journey across the Atlantic Ocean on the same week in September 2003 that Hurricane Isabel struck the Eastern United States. My flight itinerary consisted of flying from Toronto to Philadelphia, and then one hour later flying from Philadelphia to Frankfurt. My flight from Toronto was delayed one hour due to the storm. The moment I finally set foot in Philadelphia, I heard a message on the PA system announcing "Last Call for American Airlines Flight 363 to Frankfurt, Please Proceed Immediately to Gate 34". I ran as fast I could to the opposite side of Philadelphia's huge airport, and I barely caught made the plane. However, the ten-minute sprint caused some heavy perspiration, and now had to spend the next 9 hours in a cramped airplane wearing my sweaty clothes.

The flight over the ocean was actually great. The man sitting next to me was a fighter pilot for the American Air Force, and I watched all three movies, since I was too excited to sleep. After arriving in Frankfurt, I proceeded to customs to get my passport checked, and headed for Baggage Control to pick up my luggage.

Unfortunately, my luggage was still somewhere in Philadelphia. A large group of passengers were in the same situation as me, due to the delayed connections caused by the hurricane. However, the airline representative assured us that the luggage would be flown in within the next few days, and shipped to the address we provided them. I would have to continue wearing my smelly shirt until then.

Sure enough, two days later, a German taxi delivered two seventy-pound bags of luggage to my front door, free of charge. Looking back, this was a blessing in disguise, and the hurricane had saved me a lot of luggage hauling.

I spent my first month in Germany attending the German language course offered through the Sprachenzentrum, and living with a German family in Branschweig. This allowed me to experience the life in a German household. The house consisted of a husband Stefan, his wife Kathryn, and their three children Pitt, 11, Roya, 9, and Sara, 3. The children loved to play games, but unfortunately, even the vocabulary of the three year old was better than mine. In the family, only the father understood and spoke a little English. Communicating with them was a real challenge, but we had a lot of fun together, and it was neat to compare differences between this German family and my Canadian family back home.



# Travelling

One advantage of Europe over Canada is the large amount of cultural centers and events in such a small geographical area. International cities such as Rome, Venice, Barcelona, Madrid, Paris, London, Dublin, Amsterdam, Brussels, and Vienna are only a few hours and a cheap airfare away. The best way to obtain cheap flights is to book in advance and to be flexible with the date. I have flown from Hannover to Barcelona for 15 euros (\$25 CAD) and to Venice for 20 euros (\$35 CAD) including all taxes and fees. However, when planning a trip, it is important to also budget for the transportation to and from each airport, as sometimes these costs may be an extra 30 euros per trip.

Another great way to travel is with the German high-speed trains, Die Bahn <http://www.db.de/site/bahn/en/start.html>. This extensive railroad network can take you across Germany to communities of all sizes at speeds of up to 300km/hr. A great deal that my friends and I used frequently was the "Schoenes Wochenende Ticket". Up to five passengers can travel on all Deutsche Bahn local trains all day long on a Saturday or Sunday for just EUR 28 (only if you buy the ticket from a machine or on the Internet - otherwise EUR 30). The only disadvantage is that you are restricted to slower regional trains, and are not allowed to take Inter-City Express (ICE) or Inter-City (IC) trains. We used this special to make it to Oktoberfest in Munich. It was a long 12-hour train ride, and we had to switch trains six times, but it only cost 5.60 euro per person!

If you plan to make a lot of trips within Germany using the high-speed trains, it is worthwhile to buy a Bahn-50 Card. The student price for the card is 100 euros, but the holder, and passengers travelling with him, save 50% off every regular priced ticket bought throughout the one-year period. There are other great deals, so check the Die Bahn website often.

Another economic way to travel is to use "Organized hitchhiking". One of the main websites in Germany offering this service is Mitfahrgelegenheit <http://www.mitfahrgelegenheit.de>. Simply select the date, the departure and destination cities, and the website will connect you with the contact info of drivers willing to offer you a seat. Usually the driver will only expect you to pay for your share of the gas money, so the cost is much cheaper than taking the train. You get to meet lots of interesting people, usually students trying to save some money themselves. The only disadvantages are the possibility of getting stuck in traffic or the driver cancelling the trip. With these risks, I do not advise you to use this service as a method of getting to the airport.

# Academics

Do not expect the Braunschweig courses you initially selected in Canada to be the courses you are stuck with for the year in Germany. In the end, almost all of my courses had changed from my original plan due to time conflicts and courses not being offered.

German Engineering courses usually have one two-hour timeslot a week for the lecture (Vorlesung), and a 1.5-hour timeslot for the tutorial (Ubung). During tutorials at TUBS, the TA chooses problems to solve on the board for the students. Tutorials are similar to at Waterloo except there is less interaction. Some classes also offer a Seminar Gruppe (SG), a smaller tutorial where the TA's are present, and students independently work on problems. Every course has a Skript (coursenotes), which can be anywhere in from 100 to 500 pages long. The Skript is sold at the beginning of the term for a very reasonable price (the cost of printing), and is so thorough that no textbooks are required.

I spent my 3B and 4A terms in Braunschweig. However, the majority of the courses I took in Braunschweig qualified as 4<sup>th</sup> year technical electives. During the academic semester I spent in Waterloo after my return, I finished my 3B courses and my 4<sup>th</sup> Year Design project.

Because of the large variety of mechanical engineering courses at TUBS, from vehicle design to agricultural machinery to airplane construction, I encourage you to try as many courses as you can. You do not have to register for the courses, you just have to show up for the first class at the beginning of the semester. In fact, students are free to attend however many classes they wish. Eventually, you will decide which courses interest you most, continue attending those classes, and write those exams at the end of the semester. The timetable for the faculty of engineering courses can be found at the following URL: [http://www.fbmb.tu-bs.de/stundenplan\\_ausgabe.php?nav=105&lng=&Studiengang=1](http://www.fbmb.tu-bs.de/stundenplan_ausgabe.php?nav=105&lng=&Studiengang=1)

The classes for the summer semester in Germany end in late July, and the exam period runs from late July to mid October. However, I wanted to return to Waterloo for the fall semester, so I finished all of my exams in Germany by mid-August. In order to write my final exams early, I met with the professor during the middle of the semester to set a date. I found all of my German professors to be understanding and flexible.

On my last day in Braunschweig, I went to the Foreign Students Office (AKA) and met with Heiko to arrange for my housing deposit back. Heiko and Herr Ducatelli are also responsible for arranging for the TUBS transcript to be sent to a student's home university.

## Back In Waterloo

Unfortunately, all good things must come to an end. After a year of incredible adventures and experiences in Germany, returning to Waterloo is like a reverse culture shock. Mainly, I missed the daily activities that I had grown accustomed to, such as speaking a foreign language, riding high-speed trains, and hanging out with my German friends. Of course, specialties including German beer and Würste are still available in Canada, but they are not quite as fresh and genuine.

To get credit for the courses taken abroad, the faculty undergraduate chair in Waterloo needs to see the official transcript from Braunschweig (Notenspiegel), and the course materials for all courses taken. Unfortunately, even though I was finished all of my TUBS exams by mid-August, my transcript was not sent to Waterloo until November (when the German semester ended). In my case, only two of the ten courses I took in Braunschweig had been approved from previous exchange students. For the remaining courses, I had to bring back thick binders of paper, containing the course notes and the work I had done. I received credit for every course I took in Braunschweig, but 6 of the courses were counted as generic 4<sup>th</sup> year technical electives, GENE 21M.

Braunschweig Courses	Waterloo Course Equivalents
<b>Winter Semester</b>	
MWB 524 – Heating and Air Condition Technology	GENE 21M - Heating and Air Condition Technology
MWB 525 – Nuclear Engineering I	GENE 21M - Nuclear Engineering I
MLF 514 – Agricultural Machines and Tractors I	GENE 21M - Agricultural Machines and Tractors I
MLF 513 – Fluid Power Technology I	ME 561 – Fluid Power Control Systems
<b>Summer Semester</b>	
MST 502 – Joining Technologies 1	ME 436 – Welding & Joining Processes
MLF 624 – Agricultural Machines and Tractors 3	GENE 21M - Agricultural Machines and Tractors III
MWB 649 – Nuclear Engineering II	GENE 21M – Nuclear Engineering II
MWB 729 – Renewable Energy Sources	ME 459 – Energy Conversion
MTD 402 – Heat and Mass Transfer	ME 353 - Heat Transfer 1
MVK 640 – Multiphase Fluid Flows I	GENE 21M - Multiphase Fluid Flows I

I started my final academic semester back in Waterloo in September, before I had found out the marks for some of my courses in Germany. I found school easier in Waterloo after my return, both because of the large amount of independent studying I had done in Germany and because I was taking third year courses again, after two semesters of fourth year courses. During this last term in Waterloo, the marks I received were higher than the Waterloo marks I achieved before the exchange.

However, throughout the fall semester, I was still not sure if the courses I had taken in Germany would be approved by the associate chair, because he still hadn't received my transcript. Finally, in February, six months after my return, the suspense came to an end. I was awarded credits for the ten courses I passed during my exchange and I was finally sure I was going to graduate with my class in June!



The View from the Heidelberg Castle

## Looking Back

Participating in the Waterloo Faculty of Engineering Exchange Program was one of the best decisions I have made in my life. Not only did I get to enrol in exciting Mechanical Engineering courses, I had a chance to see a different culture, speak a foreign language, experience European history and geography first-hand, meet new friends from different parts of the world, and finally learn a lot more about myself.

I learned that I have an enjoyment for learning new cultures and languages. While travelling the continent of Europe, I also realized how much of Canada I want to explore. I have a new desire to study French (by immersion of course), and to see the diverse geographical and cultural areas in Canada. My future plans include teaching English in different parts of the world, and hopefully learning new cultures and languages along the way.

I have tried to outline the steps and tips I learned during my year abroad as an exchange student. I know that there are many items I have not covered in this report, so you are going to have to find that information somewhere else. It would be impossible for me to outline everything, and that would take some of the adventure away from you! During the entire year abroad, don't be afraid to ask questions.

I will always be grateful to the Waterloo Engineering Exchange program. As time passes, my German vocabulary may slowly fade away. However, my photographs, memories and new friends will remain with me forever.



**Prost!**

# Links

## **Academic:**

Goethe Institut, German language classes in Toronto:

<http://www.goethe.de/ins/ca/tor/enindex.htm>

UW Engineering Exchange Website: TUBS Program:

[http://www.eng.uwaterloo.ca/~exchange/exchange\\_from/countries/germany/U2/about.htm](http://www.eng.uwaterloo.ca/~exchange/exchange_from/countries/germany/U2/about.htm)

TUBS Mechanical Engineering Course Catalog:

[http://www.fbmb.tu-bs.de/stundenplan\\_ausgabe.php?nav=105&lng=&Studiengang=1](http://www.fbmb.tu-bs.de/stundenplan_ausgabe.php?nav=105&lng=&Studiengang=1)

## **Travel**

Organized Hitchhiking Website:

<http://www.mitfahrgelegenheit.de>

Deutsche Bahn train tickets and schedules:

<http://www.db.de/site/bahn/en/start.html>

Hapag-Lloyd Express Budget Airline:

<http://www.hlx.com/de/index.html>

Air Berlin Budget Airline:

<http://www.airberlin.com/>

## **Miscellaneous**

Photos taken during my year abroad:

<http://community.webshots.com/user/garett155>

<http://community.webshots.com/user/garetto>

TUBS AKA International Students Office:

<http://www.tu-braunschweig.de/international/wirueberuns>

LEO German-English Online Dictionary:

<http://dict.leo.org>

International Students Office Housing Accommodation Help:

<http://www.tu-braunschweig.de/international/incomings/accommodation>

Schunter Kino Student Cinema:

<http://www.schunterkino.de/index.php>

## Pictures



Burgplatz, the center of Altstadt Braunschweig



One of the many castles along the Rhine, near Koblenz (left) and the Colossus Statue, Kassel (right).



**A dark dreary day in Berlin.**



**A view of the Bavarian Alps and SchwanSee near Neuschwanstein.**





The Notre Dame Cathedral and The Eiffel Tower in Paris.



My Girlfriend and I in front of the London Bridge.



**Gondolas in Venice (Left) and a Windmill near Gifhorn, Germany (right)**



**Running of the Bulls in Pamplona, Spain.**



The Guggenheim Museum, Bilbao, Spain



Inside Beck's Brewery, Bremen.