

**Exchange university**

TU Darmstadt

Degree programme

Information and Communication Technology

A Stunning Semester in Darmstadt

Before departure

I applied for exchange studies because I wanted to immerse myself in a new culture, expand my horizons, and gain a global perspective on my field of study. The opportunity to live and study in a different country is a unique experience that can greatly enhance personal and academic growth.

I chose Darmstadt, Germany as my destination for several reasons. Firstly, Germany is renowned for its high-quality education system, particularly in the fields of engineering and technology, which aligns with my academic interests. Darmstadt, specifically, is home to the Technische Universität Darmstadt (TU Darmstadt), a prestigious university known for its excellence in engineering and computer science. This made it an ideal choice for me to pursue my studies in these fields.

Moreover, Germany is culturally rich, offering a blend of history, art, music, and diverse landscapes. I was excited to explore famous landmarks such as the Brandenburg Gate, the Neuschwanstein Castle, and the Black Forest. Additionally, Germany's central location in Europe would provide me with opportunities to travel and discover neighboring countries easily.

My expectations for the exchange program were to gain a deeper understanding of German culture, improve my language skills (I started learning a little German years ago, but never went very far), make new friends from different parts of the world, and expand my academic knowledge through courses and research opportunities at TU Darmstadt.

As I planned on mostly following courses in English, I didn't take preparative language course, and as a European citizen I didn't need to overcome bureaucratic hurdles related to moving there.

Upon arrival

I arrived in Darmstadt only a few days before the start of the preparatory intensive language course, which gave me little time to settle in and familiarize myself with the new environment. However, this wasn't an issue, as the university organized a comprehensive orientation program for incoming exchange students, which included social introductions and information on the city. During this program, I had the chance to meet other international students and local mentors who provided guidance and support throughout my exchange experience. The orientation sessions covered important information about the university, academic procedures, student services, and cultural aspects of living in Germany. It was a great way to connect with fellow students and ease into my new surroundings.

TU Darmstadt also had a vibrant student life with numerous student organizations catering both to students in general and to exchange and international students in particular. The activities they proposed offered opportunities to engage in extracurricular activities, meet like-minded individuals, and explore hobbies outside of academics.

These early experiences and interactions helped create a sense of community and belonging right from the beginning of my exchange journey. It laid a solid foundation for the exciting months of studying and exploration that awaited me in Darmstadt.

Financials

I was fortunate to receive an Erasmus Grant for my studies during the exchange program. The Erasmus Grant is a scholarship program offered by the European Union to support students participating in exchange programs within Europe. This grant helped cover some of my living expenses during my time in Darmstadt, including accommodation, food, and transportation.

In terms of the overall cost, living expenses in Darmstadt were generally comparable to those in Sweden. The cost of living can vary depending on personal lifestyle choices and accommodation preferences. However, it is worth noting that Germany, in general, is known for being more affordable than some other European countries.

During my exchange, there were two mandatory fees to consider: enrollment to the university for the semester required a fee of approximately 180€, and additionally residents in Germany are required to pay a fee for public broadcasting services amounting to approximately 24€ a month per living unit (per house, or apartment, etc).

Here are some tips on how to save money as a student in Germany:

- Take advantage of student discounts: many places, including museums, theaters, public transportation, and shops, offer free or discounted rates for students. Always carry your student identification card and inquire about available discounts.
- Shop in cheaper stores: look for budget-friendly grocery stores like LIDL or REWE or local markets to buy affordable ingredients.
- Make use of the university canteen: if you don't have time to cook, consider eating at the canteen. It offers filling meals for student-affordable prices, and is conveniently located on campus.
- Share accommodation: consider sharing accommodation with other students to split the costs, both in student accommodation facilities and in privately rented houses and apartments.
- Look for local groups offering rentals and second-hand resales: lots of great offers for a cheap (but often brief) sublet or fire sales of people (especially students) moving out and wanting to get rid of some things happen on Facebook or Whatsapp groups; try to get in contact with them and don't miss out on great deals. You can even find a great variety of previously owned things given away for free, the key word to search for is "zu verschenken".
- Utilize public transportation: Germany has a solid public transportation system, and additionally in the State of Hesse local transportation is free with a ticket provided by the university upon registration.
- Explore free or low-cost activities: take advantage of the numerous parks, gardens, and cultural events that are often free or have minimal entry fees. Join student clubs and participate in university-organized events, which are usually budget-friendly.

By following these tips and being mindful of your spending, you can effectively manage your finances and make the most of your student experience in Germany without breaking the bank.

Accommodation

The university provided assistance and support for finding accommodation, offering me the option of taking a room both at a dedicated hotel and at Studierendenwerk, the student services organization in Darmstadt managing, among other things, a number of student residences. I choose the second option, as the first was slightly more expensive, further away from campus, and seemed to offer fewer opportunities to enjoy student life, and ended up sharing with three other students an apartment consisting of private rooms and a spacious kitchen/living room space.

Living close to the campus was indeed possible, as Studierendenwerk offers student residences located in proximity to the university campuses. This makes it convenient for students to commute to their classes and engage in campus activities.

The housing conditions provided by Studierendenwerk were generally good, offering comfortable living spaces for students. The accommodations were well-maintained and equipped with basic amenities such as furniture, internet access, and shared kitchen facilities. The rooms were typically furnished with a bed, desk, chair, and storage options.

The costs of student accommodation through Studierendenwerk were reasonable and varied depending on the type of room and location. The rental prices were generally more affordable compared to private rentals in the city, although with careful search and an early enough start it would have been possible to find comparable or lower prices even for private apartments.

It is important to apply for student accommodation early to increase the chances of securing a spot. The exchange service of TUD usually provides information and instructions on the application process, deadlines, and available options for international students.

Living in student accommodation offered the added advantage of fostering a sense of community, as I had the opportunity to interact with other international and local students. It provided a supportive and inclusive environment that enhanced my overall exchange experience.

Note: The availability and specific details of student accommodation can vary from year to year and depending on the university. It is always recommended to check the official website of the university and Studierendenwerk for the most up-to-date information on housing options and procedures

University and studies

TU Darmstadt offers a comprehensive selection of courses and programs in various fields, including software engineering and computer science. The faculty of Computer Science provides a wide range of courses, covering topics such as algorithms, data structures, software development, artificial intelligence, databases, and more.

In comparison to KTH, the university and studies at TU Darmstadt may have some differences. While both universities excel in the fields of engineering and computer science, the specific curricula, teaching methods, and academic cultures can vary. TU Darmstadt's approach to studies may have a greater emphasis on theory and mathematical background, with a focus on building a strong foundation in the subject area and less emphasis on practical coursework.

A regular day of studies at TU Darmstadt would typically consist of attending a few lectures, participating in seminars or tutorials, and engaging in individual or group study sessions. The workload and schedule may vary depending on the specific courses and programs chosen, but seemed to rely on self-study more than is typical in KTH.

At TU Darmstadt, the language of instruction for most courses at the master's level is English. However, at the bachelor's level, courses are primarily taught in German. I ended up enrolling in one of those, and while the language barrier was definitely felt (as my level of mastery of German was limited), the course material and other relevant sources (literature, online tutorials) helped make up for it.

TU Darmstadt offers language courses for international students, allowing them to learn and improve their German language skills. In particular, exchange students can enroll in an intensive month-long course upon arrival, before the start of the study semester proper, and then possibly continue with courses running with the regular academic calendar. These courses provide valuable support in developing language proficiency, and without having taken part in the intensive course I wouldn't have been able to get as much out of my stay as I did.

Overall, the academic environment at TU Darmstadt is challenging and intellectually stimulating. The university provides opportunities to explore deeply theoretical concepts while fostering critical thinking and problem-solving skills.

Courses

During my exchange at TU Darmstadt, I carefully selected a range of courses that aligned with my academic interests and complemented my studies at KTH. Here are the courses I took and their corresponding course codes:

01-10-1M01-vu: Technology and Innovation Management

This course provided insights into the principles and strategies of managing technology and fostering innovation in organizations. It covered topics such as innovation processes, technology transfer, intellectual property management, and innovation ecosystems. The course involved lectures, case studies, and group projects, allowing us to apply theoretical concepts to real-world scenarios.

13-K3-0010-vii: Renewable Energies, Energy scenarios and Climate protection

This course explored the field of renewable energies, including various technologies, energy scenarios, and climate protection measures. It covered topics such as climate modelling, potential of various energy sources, scenario development methodology. The course involved lectures and group work.

20-00-0018-iv: Computer Security

This course focused on the fundamentals of computer security, including threat models, cryptographic protocols, access control, network security, and security management. It provided a theoretical foundation as well as practical hands-on exercises to understand and implement security measures. The course involved lectures and frequent non-mandatory exercises.

20-00-0660-iv: Automated Theorem Proving

This course explored automated theorem proving techniques and their applications in logic, mathematics, and computer science. It covered both theoretical aspects, such as proofs of soundness and completeness of proof calculi, and practical considerations, such as efficient implementations of the techniques. The course involved lectures and exercises.

To ensure the transfer of credits to KTH, I consulted with my academic advisor at KTH before selecting the courses. We reviewed the course syllabi, learning outcomes, and credit equivalencies between TU Darmstadt and KTH. This helped ensure that the courses I took at TU Darmstadt would align with the requirements and standards of my degree program at KTH.

Regarding the elements of each course, the good aspects were:

Technology and Innovation Management: The course provided valuable insights into managing technology and innovation, equipping me with skills to drive innovation in organizations and understand the dynamics of technology markets.

Renewable Energies, Energy scenarios and Climate protection: This course provided a comprehensive understanding of renewable energy technologies and their role in addressing climate change. It gave me a greater appreciation for the challenges of outlining a transition to cleaner energy sources in the current political and technological context.

Computer Security: The course covered a wide range of essential topics in computer security. It equipped me with the knowledge to understand and address security challenges in modern computing systems.

Automated Theorem Proving: This course deepened my understanding of logic and formal methods. It provided practical experience in automated reasoning, which is valuable for various applications in computer science and mathematics. It was challenging, but extremely satisfying.

Overall, these courses offered a valuable and enriching academic experience, allowing me to gain in-depth knowledge and skills in my areas of interest while broadening my academic perspective through diverse subject areas, some of which wouldn't have been available to me at KTH.

City and country

Darmstadt, Germany, was a wonderful destination for my exchange experience. I found the city to be clean, and well-organized, with a rich cultural heritage (being home to a marvelous museum hosting a unique collection of art, historical relics, and interesting natural artefacts) and a thriving student community.

It was somewhat difficult to fully immerse myself in the local culture, due to the language barrier (as my knowledge of German was insufficient for largely any nontrivial conversations), however most people there could communicate in English, in particular other students, and this helped me connect with them.

One notable cultural aspect in Germany is the concept of "Gemütlichkeit," which refers to a cozy, comfortable, and welcoming atmosphere. This concept was evident in the warm hospitality and social gatherings I experienced during my time in Darmstadt. I had the opportunity to participate in local festivals and explore traditional cuisine, which I greatly appreciated, coming home with, in addition to everything else, a few new recipes added to my regular cookbook.

Living in Darmstadt provided me with the opportunity to explore other parts of Germany as well. I visited Mainz, Frankfurt, Stuttgart, each with its own distinct character and cultural offerings.

Leisure and social activities

During my spare time in Darmstadt, I engaged in various activities that allowed me to explore the city, immerse myself in the local culture, and interact with fellow students. Here are some of the things I did:

Exploring the City: Darmstadt offered a range of attractions and landmarks to explore. I took walks in the city center, visited museums, and enjoyed the beautiful parks and gardens. The Mathildenhöhe, a UNESCO World Heritage Site, was particularly captivating with its unique art nouveau architecture and exhibitions.

Sports and Fitness: TU Darmstadt provided a wide range of sports facilities and activities for students, with more events organised by the various student organisations. I enjoyed badminton games, bouldering sessions, and treks immersed in nature.

University Activities: TU Darmstadt had a thriving student community with numerous student organizations facilitating social events and meetups, providing opportunities to connect with other students.

Socializing with Fellow Students: The exchange experience allowed me to meet students from different countries and cultures. I formed friendships with fellow international students as well as local German students. We organized social gatherings, explored the city together, and had conversations about our respective cultures and experiences.

Sustainability

I made the choice of traveling to and from my destination by train. Although the journey may have been long (essentially an entire day spent on wagons, both ways) and a bit fatiguing with numerous train changes (made worse by the fact that I brought perhaps too much luggage with me, it would've been wiser to travel lighter and avoid packing unnecessary things), it was overall very manageable, and allowed me to stop along the way to enjoy some nice views and say hi to friends living there.

The city places a great emphasis on recycling, which is practiced routinely both in the household and in public spaces.

I used my bicycle as my primary mode of transportation within the city. Darmstadt, and Germany in general, are known for their bike-friendly infrastructure, making it convenient and eco-friendly to navigate the city on two wheels, and even going further as it's generally free to carry your bike on public transportation (not only on trains but also on buses and trams).