

Copenhagen Scholars Participant Comments Fall 2021

Robin McDonald, '23 – Material Science, Caltech / Chemical Engineering, DTU

I decided to study abroad to experience a different way of life and approach to academic study. In high school, I was intrigued by my French teacher's discussion on the US vs. French (or more broadly European) perspectives. These included more relaxed work schedules, different focuses in schooling, and unique cultural celebrations. Ultimately, I decided to go to Denmark for a multitude of reasons: 1) Experience a society that values work-life balance and flat organizational structures, 2) See what living in a place with rich social programs and abundant transportation options is like, 3) Try new foods and traditions, 4) Take unique, industry-focused classes that are not offered at Caltech, and 5) Meet students from all over the world. I thought Denmark would be the biggest change from US life without the hassle of navigating any language barriers. Danish people are fluent in English, and all my classes are taught in English.

As a junior, I was able to take master-level science and engineering classes. Danish students made up the majority, but at least 30% of the class consisted of international students on exchange or doing their masters abroad. Through the group projects, I talked with students about life in Denmark, UK, Germany, Austria, the Netherlands, Korea, and China. I think it was a great experience taking classes with people at different stages of their education and life (i.e., working at a company while doing their masters part-time). Despite our various backgrounds, we all shared the goal of pursuing a career in STEM. At DTU, each class meets once per week for 4- or 8-hour blocks. During a block, we listen to lectures, work on exercises, and begin group projects. The built-in problem-solving time is thus done in class with the professor eager to answer questions instead of problem-solving being relegated to homework. Another benefit to the block schedule is that I had 4-day long weekends to relax or travel around Europe. I felt comfortable traveling alone or with other exchange students (from Caltech or elsewhere) during the long weekends and week-long vacation in October. It was easy to fly from Copenhagen to anywhere in the EU, and I did not face any entry barriers due to COVID-19. In Denmark, the COVID-19 cases were extremely low from August through October due to high vaccination rates, so all restrictions (masks, distancing, etc.) were lifted. During this time, Denmark seemed like a haven from pandemic life in the US. As winter approached, some restrictions went back into place, and the people followed the government's regulations as there is a high level of trust here.

Living in a new country has been an adjustment, but I think it has been a time of growth for me. I have had to forge new social relationships with the Danes I live with, classmates, and the DTU singers in the choir. The only dining options on campus are at lunch during the weekdays, so I have spent more of my time cooking in the kitchen (but I have much more free time in general). I live Danish masters' students and we sometimes cook meals together, throw parties, and have movie nights. These have all been quite fun events, and they give me a Danish "word of the day." As for exploring around Copenhagen, I have found that the international students are quite interested in seeing all the sights with me.

Overall, I think studying abroad has given me the chance to explore new places and gain a new perspective from all of the STEM students coming from around the world.

Jillian Reed '22 – Materials Science Caltech & Chemistry DTU

You always hear people who studied abroad say something to the effect of “studying abroad was one of the best decisions I ever made.” There were so many obstacles to actually getting here though – from fitting classes into my Caltech schedule, to the seemingly endless requirements of the study abroad office (*makes the experience easier in the end*), and of course, COVID-19 – that before I came I was really doubting whether it would be worth it or not. But I kept thinking, they always say it’s one of the best things they ever did. They must say it for a reason.

Well, I am part of that now. It’s worth all of the hassle. So incredibly worth it. So, you should do it, and maybe have some blind faith in the fact that everyone who comes out the other side says you should do it, and they say it for a reason.

And I’m really happy that I chose to study abroad in Denmark specifically. I wanted something very culturally different from the US, so I chose a socialist Scandinavian nation with a language that requires sounds that people make when drowning. But fear not, for almost everyone speaks English. Nevertheless, it would do you well to learn some Danish words before you come here or take a class (there are free ones offered by the government for foreigners with CPR #s) because it may help you connect to the Danish students in your kitchen and connect more deeply with the culture.

You may have heard the stereotype that Danes are a cold and closed-off people, and while the country itself can be brutally cold for a native southern Californian, the Danes are impossibly friendly and helpful. I have truly enjoyed the game nights, food clubs, and late night talks between all of those in my kitchen. I don’t consider myself particularly extroverted, but the environment is so positive and welcoming and conducive to building friendships that things are honestly much easier than I anticipated. I will miss living in this kitchen greatly. I will not miss the bugs or the lack of screens on windows, although I have formed some kind of kinship with the small daddy-longlegs, Buttercup and Ruth, that live in the corners by the window (RIP Daisy).

It has also been wonderful to go to school (and many other things) in person again after a long period of online Caltech. Over 80% of Danish adults are vaccinated, and the country has essentially returned to normal pre-pandemic operation. I deeply appreciate living in a society where people are willing to get vaccinated, trust scientific experts and their government.

I have also had the chance to travel. From marveling at Ales Stenar in Sweden, to staying in an alpine rifugio in the Dolomites, to rowing into the astounding blue waters of the Blue Grotto in Capri, to listening to a retelling of the famous paly as we walked through “Hamlet’s” Castle, this

study abroad experience has brought both historical and natural wonders within my reach. It is a once in a lifetime opportunity.

Carol Sun '22 – Computer Science, Caltech & Computer Science, DTU

Studying abroad at DTU has been as fulfilling as I could have ever imagined and has exceeded my expectations. Caltech is wonderful because all the students have the same strong interest in engineering, but that sometimes can feel isolating. As a computer science major, I have taken all the same classes as my peers, mostly to fill the option requirements, and I often find myself struggling to find interesting classes. Here at DTU, it is quite the opposite. There are too many classes that I want to take and although the university is a technical university, there are so many different majors that are not solely focused on engineering, such as Design and Innovation, and Human-Centered AI. The class that I am enjoying the most are UX Design Prototyping where we get to work with Figma to design an app. From practical experience in my internships, I know that it is incredibly important to design with the user in mind, thinking about the usability and user experience of the product. Furthermore, Figma is the gold standard for user design in industry standards and I have no doubt that I will be able to apply what I learned from this class to my future work as a software engineer. Caltech's classes prepare its students through many theory-based classes; I've only taken a few classes where there is hands-on coding, and this type of UX Design class would most likely never be offered at Caltech.

A key difference between academics at Caltech and DTU is the collaboration style. Caltech prides itself on being collaborative, but it is oftentimes working with peers to work out the problem set, and everyone turns in their individual assignment. I have found the classes here at DTU to be more team based, especially in some classes such as my UX Design Prototyping and Cognitive Modeling. I can work with not only Danish students, but also students from around the world. In my group, there is someone from Denmark, the Netherlands, Norway, and the United States and we all have different majors, such as Design and Innovation, Technological Entrepreneurship, Human-Centered Artificial Intelligence, and Computer Science. Because we all have different backgrounds, we can have meaningful discussions and hear other opinions when working together, which I really enjoy.

Another standout difference in academics is the style of class. All the classes are a mix of lectures and exercises or group work, which I have really enjoyed this split. I'm able to immediately try the exercises and apply what I learned from the lecture, and if I don't know how to do it, I can always ask the TA or the professor. The four-hour class block can seem daunting, but it really goes by fast, especially since the professor acknowledges the long-time block, giving breaks in between lectures and giving exercises to do afterwards.

I would say the most challenging aspect of studying abroad has been the more personal side. Here, they really treat us like adults, which can be both a good and bad thing. I am responsible for my own cooking and cleaning, which is something that I took for granted at Caltech. The

canteen (cafeteria) is only open for lunch during the weekdays, and we pay for the food by weight, so it is not unlimited like Caltech. It is not open for dinner, so I have to cook for myself. Luckily, there is the shared kitchen where I can cook, which I have been taking advantage of. I haven't been cooking the healthiest, but I have been eating well most of the time. Something I also took for granted at Caltech was the cleanings. The bathroom would be cleaned every day by the janitors versus here, I have to clean my room and private bathroom myself. I've been taking these few months as a test run for real life after graduation, where I must cook for myself and clean my own room.

The main highlight of my time here is the ability to travel throughout Europe. I have been able to balance schoolwork with weekend trips relatively well and I have visited Germany, Austria, Italy and Greece during the weekends and fall break. With Covid restrictions basically gone in Denmark and open travel in the EU, it is relatively seamless to get to a different country and spend the weekend there. Experiencing the culture and the history of a city firsthand has been amazing and adds a nice break between schoolwork. I've had some memorable experiences that I will remember forever.

For those who are considering studying abroad, I would highly recommend DTU. The interesting classes, the ability to travel, and living in the happiest country in the world are a few reasons why this decision has 100% been worth it.

Mei Yi You '22 – Bioengineering, Caltech / National Food Institute, DTU

Studying abroad in Copenhagen, Denmark has been the highlight of my undergraduate experience at Caltech. Having lived in California for most of my life, I haven't really had the chance to experience the world in another place. I have been pretty sheltered from the annual seasonal changes and was extremely excited, yet hesitant to experience actual rainfall and winter weather. My first impression of DTU was that it was really green! Literally speaking, due to the frequent rains and showers, the campus is paved with grass, shrubs, and deciduous trees, which makes the entire campus turn into a breathtaking mosaic of orange, gold, and brown during the fall. Despite the chilly weather, I enjoyed admiring the scenery walking to and from class, which made wearing extra layers worth the effort. Figuratively speaking, since Denmark is the third most sustainable country in the world, DTU highly emphasizes being "green" and has a large sustainability department and initiatives that aim to encourage students to design and innovate for a more sustainable future, which is one of the reasons that attracted me to studying abroad at DTU.

As a result of its large campus size, DTU offers a much wider range of study subjects and courses ranging from food science and marine ecology to entrepreneurship and international business marketing. At DTU, I have the opportunity to study in the National Food Institute department and am taking courses on food engineering basics and innovations in food product design. In my food product design class, I am collaborating with an Ethiopian startup to develop an affordable and nutrient dense food product aimed to reduce malnutrition in lactating

women and their infants in Ethiopia. DTU's product design and project-based classes have allowed me to exercise my creativity, public speaking, and other skills that expand beyond those I have commonly practiced in Caltech. Since the classes are taught at a slower pace, I have more time to focus on the material and try to understand it well. At the same time, rather than having weekly problem sets due, most classes will give out practice problem sets that we can work on during class time, where the professors and TAs are present to answer our questions whenever we need. I found this system to be extremely helpful when I need clarification on the problem set or parts of the material in general. Although the four-hour block periods took a little bit of time for me to adjust to, I appreciated that it included time specifically for students to work on problems and collaborate with our classmates instead of doing it all on our own time. As a result, this frees up a bit of our time after class to do other things.

One of the activities I participated in was the DTU Badminton Club. Since badminton is rather popular in Denmark, the club on campus is very active and meets several times per week. The club is split into three teams based on skill level. We have practice once per week, and open gym is available a couple times per week depending on the gym availability. Badminton is one of the many clubs on campus that is very open to newcomers and exchange students.

Residential life at DTU is a little different than that in Caltech. One of the major differences is that the cafeterias (canteens) on campus are only open for lunch and there are a couple of cafes that are open earlier. As a result, I had to take care of my own breakfast and dinner. However, this isn't such a hassle, since there is a grocery store right next to where we live and many kitchens have "food club" where a couple of people are designated to cook dinner once a week for the kitchen. I signed up for the food club in my kitchen and made food for them a couple of times. In addition, each kitchen often hosts little parties/celebrations for certain holidays/events. My kitchen threw a party for Halloween and held a baking event to celebrate the winter holidays.

Although the Danes aren't known for small talk, I made many Danish and non-Danish friends from Europe and other parts of the world. With some time on my hands, I was able to go kicking boxing for the first time with some of my kitchen mates and was able to go on trips to different countries in Europe. COVID hasn't really impacted social life (or life in general) in Denmark much, since we are all mask free here, and everything has pretty much been back to normal for a while (although cases rose towards the end of the semester). Through collaboration on projects and presentations, I was able to get to know a lot of my peers and learned a lot about Danish culture and other European cultures. I've had many insightful conversations with my friends and kitchen mates about the various political and cultural perspectives that we have, which has been incredibly enlightening and thought-provoking.

Studying abroad at DTU has been, without exaggeration, one of the best decisions I've made in my life. I've learned and seen so much and gained perspectives I never knew existed. This

experience has been truly unforgettable. I highly, highly recommend studying abroad at DTU, or elsewhere. It's a once in a lifetime experience!