

Engineering in London 2023 Student Blog Posts

Seth Jenkins

The Engineering in London program has been an amazing experience that has really taught me a lot in and outside of the subjects being studied. Of course, I learned the math and science of circuits and thermodynamics, but I also learned how I work in a foreign environment and how long it takes me to adjust to a brand-new living arrangement. The additional trips we made helped solidify my understanding of the material and how the ideas I learned in class apply in the real world to fix real engineering problems.

As someone who has entertained the idea of moving for work this was a great test bed. I learned what things I do and do not need to succeed and remain comfortable. I learned what things I miss and what things I can go without. Even though it lasted only a month, this program gave me a great deal of informed confidence in my abilities to adapt and overcome the common problems of moving and living far from the people and places that are home. A reset like this is an important step in determining where the excesses of my life can be trimmed and what habits and routines can or should be altered.

Alyson Champion

It's hard to pick one experience that shaped my time in London. I've experienced living in a different country with a group of people; I've made friends with people that I've seen in classes for years but have been too scared to talk to; I've learned more about engineering and practical applications than I ever thought possible. My favorite excursion from the trip was definitely visiting Bletchley Park. We got to learn about all the different people involved in breaking the enigma codes during World War II.

At the National Museum of Computing in Bletchley Park, the man showed up how the enigma machines worked and explained all the people involved in decoding. Their dedication and commitment to breaking the codes, and thus saving millions of lives, is an inspiring reminder of the importance of innovation and collaboration and a testament to the power of

believing in a cause.

Nathan LaCognata



Being part of this EIL program has been an amazing experience and has taught me much more than just the material in the classes. We've done multiple "field trips" to museums or to visit important sites in engineering history to learn about their significance and the process of construction which have not only helped us think about the applications of the concepts from class but also why we do what we do and helps think about our engineering perspectives outside the classroom.

Of all the components that make up the EIL program, I think that working with students from a variety of different majors as well as interacting with people and engineers from other parts of the world has had the biggest impact on my future engineering aspirations and current opinions. While at UT, a large majority of the people I work on projects with or have classes with are from the same major as myself but here, I met and was working with students from many other engineering disciplines, and it has helped me to see how different backgrounds look at the same problem and how important it is to work together and be able to communicate. In addition, at all the sites we visited, we spoke with engineers who have worked in the field and on large projects here in the UK, and after speaking with them, I realized how different the needs of a country are depending on its location in the world. This is something that I want to consider moving forward, to try and figure out how to best fit the project to the area where it is located or how to make a project more applicable to many areas of the world to help as many people as possible.

I thank you for helping me take advantage of this amazing opportunity.

Colby Hale

Engineering in London has been one of the best academic decisions I have made so far. Going into my Sophomore year, I heard about the EIL program from one of my roommates who had participated in it a couple of years prior. I thought it sounded like fun, but I was hesitant because I thought I wouldn't know anyone. Going to a foreign country with no friends to study Thermodynamics and Circuits sounded like a scary proposition. Little did I know I was completely wrong. Within the first day of our month-long trip, I had met a solid group of friends who I would study with and go on day or weekend trips with whenever possible. After just the first week, I already knew everyone's names and was able to have conversations with anyone at any time. I credit this almost entirely to the amount of group excursions and activities we went on organized by the EIL professors. Although there are so many to pick from, my favorite would probably be the Science Museum. Upon arriving, our group was able to watch a huge 700-horsepower steam engine built in 1903 operate right in the middle of the whole museum. Accompanied by two head engineers, we were able to watch as the steam engine operated to move a 20-tonne flywheel and ask any questions about how the engine worked. What was so cool about witnessing this in person was that it enforced everything we were learning in class (particularly Thermodynamics) as we had been covering how piston-cylinder assemblies and simple steam engines worked. By participating in these weekly excursions to science and history museums, I feel like I had a better understanding of the course material while also getting to explore and have fun in London.

As my Engineering in London experience comes to an end, I can't believe that I was even debating whether or not to come at one point. While it may have seemed a little scary, or like a lot of work for a summer break, my study abroad experience through EIL is one I wouldn't trade for any other summer. Getting to know all the students and the professors is a lifelong memory that I am sure none of us will forget. I look forward to seeing everyone I met back in Knoxville as we continue our journey to be Engineers.



Frank Moser

Engineering in London (EIL) has given me the opportunity to continue pursuing my technical engineering education while also learning and experiencing the history and life in a foreign place. While we studied different aspects of steam engines in our thermodynamics course, we also saw still functioning engines from the Victorian era that laid the foundation for modern machines. At the British Science Museum and Kew Water and Steam Museum, we learned how these engines were built and are still in good condition in the modern era. Similarly, while learning about all aspects of electricity during our circuits class, we visited the Royal Institute where we saw Faraday's lab (Michael Faraday is one of the most significant figures in discovering how electricity and magnetism interact).

Outside of class, we all learned what it is like to live in a foreign country. It took some time to adjust to the fast-paced environment of London, public transportation, a different culture, and how to balance our coursework with exploring everything the city has to offer. This was difficult for the first week or so, but before long I figured out how to be flexible and balance everything. With the sun setting so late, I set a goal of seeing something new after class every day. From the British Museum to the Harry Potter Studio Tour to Kew Gardens to several shows on the West End, I loved taking advantage of everything London has to offer. This program is so unique and valuable in that EIL allows us to have holistic experiences that complement our engineering coursework, while still allowing us to explore independently—a truly immersive experience that has allowed me (and all of my peers) to grow both as engineers and as global citizens.



Emma Lipka

During this month-long study-abroad program, we have had the opportunity to visit many historical engineering sites that have held relevance within our program. One of the sites that we visited towards the beginning of our program was the Kew Bridge Steam Museum. This museum showcased a range of exhibits related to steam engines, water supply systems, and the overall industrial heritage of London. The main attraction of this museum was the world's largest working beam engine. Being able to see these attractions gave us a glimpse into the history of steam power and water supply engineering in London.

Along with the Kew Bridge steam museum, we were able to go to Southeast London toward the end of our month abroad to visit the Brunel Museum. This museum showcased the Thames tunnel project and the engineering achievements of the Brunel family. Being able to learn about how the tunnel came to be and even be able to descend into the original tunnel shaft entrance, which answered questions regarding the challenges faced during the construction of the tunnel. The contributions of each of these sites added to the engineering experience that we were able to delve into during our time in London, and helped us gain a more hands-on experience with the subjects.

Hailey Henderlight

On the last day of this program, I was asked for one word that described this 4-week Engineering in London study abroad program. The word that immediately came to mind was 'surreal'. During this 4-week program in London, there were many things I got to see because I was studying abroad that I otherwise wouldn't have. We got to see several real-life applications of thermodynamics and circuits that we were learning in class each day which helped reinforce

the material. We also got many behind-the-scenes looks at the engineering that goes on to keep machines like 19th-century steam engines running.

Out of the many excursions we took on this trip, my favorite was getting to go to the Royal Observatory in Greenwich. I started my journey into engineering in my junior year of high school when I took a physics class where we talked about the Greenwich Royal Observatory and the prime meridian. A little over 3 years later, on this trip, I found myself standing on the prime meridian looking at Greenwich. Getting to walk through the observatory and see some of the history and concepts that I learned about in my courses so far in engineering and back in that high school level introductory course sitting in front of my eyes was absolutely surreal. It was a full-circle moment that reminded me of the importance of studying engineering and coming back to the home of the industrial revolution.



Mason Roddy

My time on this short study abroad had a profound impact on me. I traveled throughout Great Britain and experienced its different cultures and history. Perhaps, my favorite part was Edinburgh, Scotland. The city seemed frozen in time, and as a history enthusiast, I loved it. More than that, they blended the old Medieval architecture with modern architecture well. In the center of the city, you would not have thought the next street was full of modern glass buildings. The city meshed the ancient feel of the castle and cobblestone streets with modern comforts, buildings, and transportation.

Along with visiting these amazing new places, I was challenged and pushed out of my comfort zone to live in a new country, with people I knew little about, and take classes. I definitely learned new things about myself. I am thankful I had the opportunity to be part of this program, meet the people within it, and share my experiences with others.





Jaxon Thornburgh

During our trip with the Engineering In London program, I got to experience living in a new environment with little to no strict guidelines, which allowed me to develop useful skills that will carry beyond the program. Other than the life skills I developed through this trip, the most marvelous activity brought by the program was being able to see real old steam machines at the steam and science museum. Since the machines are so big, we could see all the individual processes we had been learning about during class, which helped bring into perspective what they actually did. Whereas with the more modern engines, it was a bit harder to tell what was happening, so seeing the larger steam engines really enhanced my learning of thermodynamics on this trip.

Besides those two museums, the next best thing we did was go to the royal institute, where we got to sit through a lecture about the big bang. The lecture hall we sat in was the same one Michael Faraday showed the world about electromagnetic induction. We also got to see the original disk that he first presented with. Through the museums and the royal institute, we got to see numerous examples of the content we were learning in the class, which helped expand what we learned in London.



Karaley Carmichael

Being able to participate in this study abroad trip has been an incredible experience personally and academically. I never thought I would be able to have such an amazing environment to take my classes in and provide me such a unique opportunity to really connect with the professors and material. One excursion that I found really enjoyable was the attending of the Shakespearan play *The Comedy of Errors*. In the future, I hope to be able to work in the entertainment industry combining my engineering skills with props and sets, so to be able to see a play was really inspiring to me. Overall, being in London surrounded by so many feats of

engineering has helped me to see the full impact of what our work as engineers can do, and how it can help further society as a whole.

Cameron Castleberry

Though I greatly enjoy my aerospace engineering major, the Engineering in London program has vastly widened my interest in other engineering fields. I used to not appreciate the intricate designs and intensive labor that it takes to engineer things like bridges, dams, and tunnels. I only wanted to work on things that fly. However, after seeing the Brunel Museum and Thames Tunnel, the Thames Barrier, and some of the beautiful bridges we crossed, I have gained



so much appreciation for them. They are things I use every day but used to take for granted. This program provided me with a new perspective on these amazing engineering feats and a respect for the people who created them.

My very favorite thing that we did was visit Bletchley Park and the National Computing Museum. Though it also doesn't directly pertain to aerospace, I found it super interesting! We got to see the origins of computing and how early computing machines (the Enigma) helped win WWII. The Enigma was used to crack German codes, which could then let the world know their next moves to stop their attacks. Bletchley Park had such a huge role in the war that the Nazis quite literally might've won if it wasn't for the brilliant people who built the machines that could decipher these German messages. Even more, the fact that they did this about eighty years ago is hard to wrap your head around.

Blake Milstead

During the EIL program, we journeyed through the history of engineering in London by going on many coordinated group excursions. One of these coordinated excursions was to the British Science Museum. Out of all the museums we visited on this trip, there were a lot, this was by far the most impactful to me; Bletchley Park was a close second. It was chock-full of incredible pieces of engineering spanning across ages and disciplines. I was reminded of why I am pursuing a math minor by Charles Babbage's astounding analytical marvel The Difference

Engine. More importantly, as a Computer Science Major, I met some of the British Science Museums' computer science team getting a glimpse at what they do and how they do it. I was also able to realize I may have a passion for the mechanical side of engineering from all the engines displayed in the “Energy Hall”. Of course, I cannot forget getting to look at the famous James Watt’s workshop. While walking amongst thousands of feats of ingenuity, passion, and perseverance I was humbled and inspired. Everywhere I looked I was reminded how much the world owes to engineers; for the first time since I decided to pursue a degree in engineering, I felt that my job was not only important but that I could change the world by doing it.



Trey Spinazzola

Living in London, a city buzzing with diversity, history, and an inexhaustible vibrancy, was nothing short of transformative. It was a city that never slept, where every corner was steeped in culture and history, with each street narrating its own story. It was an experience that was as humbling as it was exhilarating, teaching me how to coexist in a multicultural society, to navigate the labyrinth of the Underground, and to grasp the undercurrents of the local etiquette. Far from the comfort of my home, the city was initially overwhelming, but it was through these

experiences that I learned to adapt, a valuable life lesson. I found resilience within myself as I engaged with the city's unwavering pace, discovering my capacities to be self-reliant, resourceful, and open to new perspectives. The city's dynamism ultimately mirrored my own personal growth, shaping me into a more well-rounded individual.

Simultaneously, undertaking two demanding academic courses served as a catalyst for my personal and intellectual development. They pushed my boundaries, compelling me to venture out of my comfort zone into areas of knowledge that were entirely unfamiliar to me. There were moments of self-doubt, frustration, and exhaustion, yet I learnt that persistence and discipline were the keys to success. I began to appreciate the beauty of complex ideas, developing a newfound respect for the intricacies of the academic world. Balancing rigorous coursework with a bustling city life taught me invaluable skills of time management, prioritization, and self-motivation. It was through the crucible of these challenges that I emerged stronger, more patient, and flexible. I understood the value of learning not just from books, but also from experiences. The combination of living in London and navigating through these difficult classes refined me into a better person, instilling in me a sense of independence, intellectual curiosity, and resilience.



Austin Fisher

Studying abroad has been a transformative experience, particularly in enhancing my understanding of engineering. The Thames Barrier is a massive flood control structure on the Thames River. This barrier and its grand size showed me the ambition and scale of some engineering projects. The magnitude of these projects cannot go unnoticed, reinforcing to me the significance of my education and its impact on society.

One thing the Thames barrier specifically opened my eyes to is the importance of

sustainable and environmental design. Its efficient use of energy and dynamic control system are perfect examples of a well meticulously developed design. The Thames barrier has exemplified the significance of engineering in safeguarding communities and has further fueled my passion for pursuing innovative solutions to complex societal and environmental issues.



Ciel Voy

My experience in London this past month has been overwhelmingly positive. More specifically, it has allowed me to explore the cultural differences between London and the United States, the primary example being London's unimaginable diversity. London's population is a large mix of many different ethnicities, especially in the Whitechapel area. A direct consequence of the population diversity is the diversity of food across the city; within a 3-minute walk of our hotel was a great thin-crust pizza joint, a classy Italian restaurant, and the best Indian/Pakistani food I've ever had the pleasure of tasting. Near the school building was an open-air market containing ethnic street food vendors from various countries. An unexpected aspect of London's diversity that I discovered was its distinct neighborhoods, each with its own atmosphere and energy, all within minutes walking distance of each other. On the rare occasion that the atmosphere I sought was not nearby, I could simply hop on a train and be across London within the hour, all without the headache of traffic.

The program also included several "field trips" to various museums and interesting feats of engineering around the city, such as the Thames Barrier, the Royal Observatory, and the Brunel Museum. My favorite excursions, though, were those that involved steam engines: the London Science Museum and the Kew Steam Museum. While I liked Kew because of the number of large, well-maintained engines, the London Science Museum ended up being even better. It contained several steam engines throughout the age, allowing spectators to observe the evolution of early-age steam power. It also contained lots of other engineering-related exhibits, my favorite being "Flight", which showcased how the airplane evolved from Da Vinci's

original glider design to the modern Boeing 747. I entered the museums not expecting much, but left pleasantly surprised by how interesting they were. I loved the trip.

Andrew Eblen

My trip to Bletchley Park profoundly impacted my perspective as a Computer Engineering major. Stepping into the historic site where codebreakers worked tirelessly during World War II, I was impressed. Witnessing the incredible achievements of those brilliant minds fueled my passion for innovation and problem-solving. Bletchley Park showed me the power of collaboration and how pushing technological boundaries can lead to groundbreaking results. It reminded me of the importance of interdisciplinary approaches, merging technical expertise with understanding history and human psychology. Leaving Bletchley Park, I am determined to apply my computer engineering skills to make a meaningful difference in society.

Mackenzie Brogan

Of all the meaningful experiences I had through the Engineering in London program, I found the visit to Bletchley Park to be most impactful on my engineering perspective. At Bletchley, we learned about how the German Enigma codes were cracked during World War 2. We were able to see replicas of the machines that were used to transmit and crack codes, as well as learn about the people who built and operated these machines. Codebreaking is an aspect of World War 2 I had never been taught about before, and I greatly appreciated the opportunity to learn about it from both a historical and engineering perspective during our visit to Bletchley Park.

The aspect of this visit that most struck me was realizing the resilience of those who worked at Bletchley. These people had to work long hours in confined spaces, and they couldn't let anyone know what they were really doing. Working under these conditions trying to find the one correct way to break a code out of millions of possibilities must have taken an incredible mental, physical, and emotional toll on those who worked at Bletchley. However, in the end the work that was done there had a tremendous impact on the outcome of the war and led Bletchley Park to going down in history as a place of scientific innovation and excellence. As an engineer, finding a way to make something work can often feel like finding a million ways that something does not work, much like what the codebreakers experienced at Bletchley. Seeing what the work of these people accomplished at Bletchley was an inspirational reminder that the hard work I will put into my projects as an engineer can and will contribute to future successes and innovations, even though that is sometimes difficult to see in the moment.

Mathew Jacobs

My outlook on my future career in engineering was impacted by the trip to the Royal Institute and Faraday Museum during the Engineering in London program. At the Faraday Museum, I saw and experienced the works of many scientists and engineers, including those of Faraday with his works in electromagnets, Ada Lovelace and her works in code and mathematics, and Humphry Davy and his works in discovering new elements. The incredible works of these scientists and engineers were truly awe inspiring for their time and now. These scientists and engineers made fantasy become a reality by making their ideas into engineering feats. Attending this Engineering in London program and experiencing the Royal Institute and Faraday Museum reinforced my desire to be an engineer. I want to create new and interesting matters and translate my ideas through engineering.

Attending the Royal Institute reinforced that I would like to get into engineering research roles. While at the Royal Institute, one of the speakers, a professor from California, would talk about how he and his research group were trying to prove their theory of a multiverse by using polarized gravitational waves to investigate the background radiation of the universe.

The idea was something so new and innovative that I had never even dreamed of the possibility. This lecture and the museum made me realize that I want to get into the cutting edge of research trying to do the impossible and make what seems like science fiction into reality.

