First Environment is a smaller-sized environmental consulting company headquartered in Boonton, New Jersey. As a CO-OP at First Environment, I worked on various investigation, remediation, and litigation support projects. In order to do so, I received significant training during the first few months of employment. First, I participated in First Environment's New Hire Orientation Training, which was approximately two days of in-house training including general company guidelines, administration, accounting, environmental management systems (EMS) awareness, and information technology. Then, in order to participate in field work, I attended a 40-hour Occupational Safety and Health Administration (OSHA) class, and two months later attended an eight-hour refresher course. I also had to have a physical and a fit test, a test to determine the proper size respirator to safely fit one's face in case airborne contaminants are present on-site. The final training requirement to permit me to participate in field work was to have at least three days of on-the-job training working under the direction of a knowledgeable employee.

Other than formal and on-the-job training, another aspect of the work term that helped me smoothly transition into the company was my mentor, Dean DeGhetto. Dean was very generous with his time and approachable, as I was able to go to him with any and all questions I came across. If he could not answer them, he would direct me to someone who could. Laura Golluscio, the Human Resources Director, was also very approachable, as was the entire staff. This, I would say, was one of the best features of this job. The small, tight-knit, and relatively relaxed atmosphere of the company was great. Everyone made me feel like I was a part of the "family", even though I would only
be there for a short period of time. I was even invited to the company holiday party, which was a lot of fun. Another positive feature of the job was the progressive nature of the company. We frequently had lunchtime seminars on up-and-coming environmental practices, which I found very interesting and educational.

There were also some aspects of the job that I didn’t like. Unfortunately, the work activity did not really align with my educational background. There was little chemistry or engineering involved in the work I did. Most of the work I did in the office was administrative, such as database entry and data organization. I was also involved in a number of projects that required me to contact government organizations regarding environmental policies. I was involved in only one engineering-type project in which I was asked to check calculations for greenhouse gas emissions of an airport. First Environment tried to be accommodating when I addressed my concerns with the lack of engineering-type projects however they explained to me that they do not get many calculation-intensive assignments there was not much that they could do about it. I did enjoy performing and observing fieldwork, such as soil and groundwater sampling and construction oversight, however I did not get the opportunity to do very much of it.

In terms of housing, I am fortunate in that my home is only about 20 miles from the office, so I have been able to save money by living at home. I also am lucky because I have other friends in the area, so I had many opportunities for social activities during my CO-OP term. For future reference, this CO-OP assignment definitely requires a car for transportation.

Through this internship I learned, in general, that not all of what one learns in the classroom gets applied in every position in the business world. In terms of my personal and professional development, I found the greenhouse gas and energy work interesting and would possibly consider looking into a full-time job in one of these fields. Alternatively, I am not sure that my future interests lie in the environmental consulting
field. Yet, if I were to have this experience again, I do not think that I would have done anything differently because most of the issues and concerns that I came across were out of my control.

While I did find this experience educational and enjoyable, on my return to First Environment in the summer I hope to find myself presented with more challenging and thought-provoking tasks that relate to my interests in chemistry and engineering. I also hope to have more frequent fieldwork opportunities.
First Environment is a smaller-sized environmental consulting company headquartered in Boonton, New Jersey. As a second-term CO-OP at First Environment, I worked on various investigation, marketing, permitting, greenhouse gas, and litigation support projects. One of the major projects I worked on was in the field of greenhouse gas emissions. First, I was trained to use the Climate Action Registry Reporting Online Tool (CARROT), which is the California Climate Action Registry's greenhouse gas emission calculation and reporting software. I inputted annual energy usage data and CARROT calculated the associated greenhouse gas emissions. The report generated by CARROT was then used to manage future emissions. I enjoyed working on this project and felt a sense of satisfaction, especially since greenhouse gas emissions are becoming a big worldwide issue. I also enjoyed the calculation-based aspects of the project and found that I was able to apply some of my engineering skills.

Another major project that I worked on involved preparing air permit applications for two manufacturing companies. Both companies use adhesives in their line of work. For the permits, I calculated the Volatile Organic Compounds (VOC's) and Hazardous Air Pollutants (HAP's) in the chemical components of these adhesives. In order to do so I had to apply my chemical engineering education. This involved significant research and at times controversy because these emissions are reported directly to the Department of Environmental Protection. This project also exposed me to working directly with clients, as I was able to attend and participate in many of the meetings. Overall, this was probably the most significant project I worked on this summer and I was able to see it from start to completion, which was a big accomplishment for me.
Further, I was involved in many energy-related marketing projects. First, I helped prepare the Energy Efficiency and Conservation Block Grant application for a local municipality. This grant is to provide federal funds (totaling $3.2 billion) to U.S. local governments, states, territories, and Indian tribes to fund programs and projects that reduce energy use and fossil fuel emissions and improve energy efficiency. Next, I researched and marketed similar grants and programs, such as the Local Government Greenhouse Gas Reduction Grant Program, the Regional Greenhouse Gas Initiative, and the Sustainable Jersey Program. The first two, as their names imply, aim to reduce greenhouse gas emissions. Sustainable Jersey is a certification and incentive program for municipalities in New Jersey that want to go green, save money, and take steps to sustain the quality of life over the long term. The actions address issues such as global warming, pollution, biodiversity, buying locally, community outreach, green building, and sustainable agriculture. Although these projects incorporated the least of my chemical engineering background, I found these projects to be very interesting because they exposed me to up-and-coming environmental practices. It also allowed me to see the “bigger picture” when it comes to environmental issues and why other projects I have worked on are so important.

Most training was on-the-job and I was fortunate to have a mentor and very accessible coworkers as I came across issues. As in my first term, this firm’s office environment was the best part of the job. The small, tight-knit, and relatively relaxed atmosphere of the company was great. All of my coworkers were extremely helpful and made me feel very comfortable. It was also evident that the constructive criticism expressed after my first term at the company was taken to heart and everyone wanted to make sure that I was given substantial engineering projects that sparked my interest.

After my first term at First Environment I thought that I would never consider a career in environmental consulting. This was a result of my dissatisfaction with the
remediation and litigation work that encompassed most of my first term. However, after being exposed to greenhouse gas and energy conservation projects, I now think that I would like to pursue a career in the energy field and am even considering getting a Masters of Engineering with an Energy Economics and Engineering concentration. Further, I can now envision myself in consulting in the future because I am a social person and I have found that consulting emphasizes communication and business relationships.

Overall, I enjoyed my summer term at First Environment. I felt that I was given substantial projects and was able to use some of my engineering abilities. There is little negative I can say because I saw a huge improvement from my first term. Although I did not get the opportunity to do much fieldwork during the summer, as I had previously wanted to, it did not bother me, as I was given many substantial projects in the office and work on these projects was very involved.

Through this internship I learned, in general, that not all of what one learns in the classroom gets applied in every position in business. In terms of my personal and professional development, I found the greenhouse gas and energy work interesting and am considering looking into a full-time position in one of these fields. I am not yet sure that my future interests lie in the environmental consulting field, however, if I were to have this experience again, I do not think that I would do anything differently. Most of the issues and concerns that I originally expressed were addressed and improved upon and I found my overall experience at First Environment to be educational and enjoyable.
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Term: 1

As a relatively small environmental engineering and consulting company, First Environment differs from the traditional large employer. First, the basics, which probably are standard in any industry or field. Training and orientation was provided on the first few days about the essentials of the workings of the company, usually through brief PowerPoint presentations by a qualified employee from the respective department. Shortly after that, I was given a mentor; a very skilled and knowledgeable individual with loads of experience in the field. Next, the differences, which I can only intuitively guess to be opposite in a large employer. Any questions I had would be promptly answered by either my mentor or any other employee, regardless of position in company, which essentially disintegrated the traditional hierarchical structure assumed in a large company. A huge plus. At First Environment, I was not placed on one large project with a team; due to the consulting nature, I was either in the field part of a small (3 people maximum) group completing an assignment or job in the field or performing some office work, which was completed individually and was usually a part of a larger project. This provided a good mix of a sense for teamwork, along with independence. Also, this provided maximum exposure to the types of work the company does, and not being limited to one and not knowing what other types of work is out there.

As a chemical engineer, I was used to technical work, filled with fun equations and exciting theorems. Due to my interests in the 'green' industry, I decided to explore that track, especially since it is becoming a huge influential sector for all industries, along with the self-satisfaction of
doing something positive for the environment. Although direct application of classroom knowledge never solidified, critical thinking and analysis was definitely applied and developed further, both of which need to be fundamental for a successful chemical engineer, as they are common to all of engineering. I learned many professional trades that are not learned in the classroom, ranging from proper and accurate communication (verbal and written), professional behavior and many others. Working for a small consulting company certainly stresses them and really places them under a microscope; these skills may not be realized on other types of Co-ops that focus on R&D or other departments that are not “dollars and cents” like consulting, where budget consciousness is essential. Although they may not seem as much, there are a surprising number of people that lack these traits in other fields and can be difficult to communicate with, which leads to wasted time. This is also important to any employer because wasted time equals wasted money. Besides the utilization and development of critical thinking and solving diverse problems that I had never seen before, I worked on both sides of the consulting at First Environment. The one side was field-based, prioritizing in following local, state or federal regulation for remediation of polluted area with contaminants ranging from heavy metals to organics such as fuel oils. The other side was the more traditional consulting, which entitled analysis and audits of emissions, inventory and Life Cycle Assessments, a technique that models relative environmental and energy impacts of a product or service to determine what is best in a desired category, such as greenhouse gas emission or acidification. I did not take any classes that dealt with these topics, so learning was required with immediacy, which led to further professional development.

The logistics of the Coop were not that complicated. Housing was found through a craigslist.com or roommates.com search for North New Jersey, which fortunately turned out a welcoming family that had a spare room for me, including a full bathroom, kitchen, all utilities (cable TV/ internet, electric, gas, water, heating, parking, etc) for a more that reasonable price in
comparison to a month’s rent on campus. Housing was in middle to upper-middle class neighborhood, with a gorgeous park, plentiful gyms, miles of decent road for biking and running. All 10 minutes from the office location.

Like I said, all employees were helpful if I were to require their help, laid back and down to earth. Dress code was a relaxed business casual. Most Mondays would have a “lunchtime seminar”, a time when the company gathered to learn from a professional, usually outside of the company about a technological, scientific, or legislative availability, change or breakthrough. Like most employers, First Environment provided opportunity to spend time with your family; holidays were observed and given off. There were also Christmas parties and other get-togethers to socialize and get away from the business setting.

Although the work was probably more applicable for a curriculum of a natural sciences or environmental engineering major, I learned a lot and was exposed to a field that I knew little about. Basic yet vital professional concepts of teamwork, individuality, maturity and communication were stressed, mostly because instead of being one in 5,000 or 50,000, you were one in 50 in a working environment. This certainly hastened your improvement in an area that was lacking.

I would be happy to answer any questions, don’t hesitate.

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Chemical Engineering
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Term 2

First Environment, Inc. (First Environment) is an environmental consulting and engineering firm based in Boonton, NJ. Their work ranges from traditional site remediation to new, progressive greenhouse gas (GHG) work. I worked on a few specific work assignments during the second term, as opposed to the first term, in which I was given more tasks of a smaller nature; each involved more time dedication. I was given more responsibility during the second term as well. Some examples of work assignments include contractor oversight of an implementation of a new storm water drainage system of 200,000 sq ft building, preliminary design of an injection system, and analysis of new green technology from a GHG emissions perspective.

Upon conclusion of my Co-op experience, I have more clear and defined goals from my future education and career expectations. I have decided to continue with academia for one more year and complete the Master’s of Engineering degree immediately after completing my undergraduate education. Instead of the traditional chemical or petroleum industry aspirations, I find my interests have shifted towards the green and renewable energy industries.

The logistics such as housing, transportation, and social activities remained the same. More details can be viewed in Term 1’s Job Summary.
The best feature of the job was the professional development. As a result, not only do I have a technical education and background from the world’s leading engineering institution, but I can complement that with excellent communication, organization, and independence gained through the Co-op experience made me much more well rounded professionally. Furthermore, the consulting setting stressed the development of those skills even more; being practical and succinct is important in any industry. However, the Co-op experience could have supplemented the collegiate curriculum more with technical projects. To fit in well with the company, prepare to be independent yet a team player, have great communicating skills, be organized and, most importantly, friendly and open-minded. To fit in well in the location, prepared to be open to traveling and independent; there is a decent amount of driving to be done to get to entertainment locations such as New York City. Being independent helps with taking care of yourself (cooking, cleaning, etc. which are harder than they seem) and being mature.

If you find yourself wondering about something, do not hesitate to contact me. I will do my best to answer your questions.

Andri