A. Co-op Work Assignment

For my co-op assignment, I worked with Kraft Foods Group in their Mainstream Coffee Research, Development and Quality group in Tarrytown, NY. I worked on a process development project for Kraft's mainstream coffee, which includes brands such as Maxwell House Coffee. The project focused on three main areas: the effects of altering the current coffee process, the validity of certain process specifications, and method development on a texture measurement device.

I worked closely with my supervisor to understand the background of coffee and the relevance of my project. After being trained on several roasters in the pilot plant on site, I conducted many small experiments that led into a final larger experiment. In order to conduct these experiments, I had to calibrate and test several pieces of equipment in the pilot plant. Through these preparations, I more thoroughly understood the capabilities of the pilot plant and how they connected to the real plant process.

Much of my work was done in the pilot plant, but I did do a fair amount of work at my desk collecting and analyzing data as well as planning the next steps. I had meetings with my supervisor every Monday and Friday to discuss the project and we talked periodically throughout the week whenever I had questions or needed to report any results. He was very helpful in answering any questions I had and guiding me through the project. The other coffee team members were always very helpful in my learning and lending a hand for my larger experiments.

In the middle of my term, Kraft Foods, Inc. experienced a scheduled split in the company. The global company was renamed to Mondelez, while the grocery side of Kraft, which I was a part of, would become known as Kraft Foods Group. Much of the Tarrytown site was being relocated and a major construction project was ongoing. Although there were many distractions as all this change took place, work went on and everyone stayed focused. It was an exciting time to be at Kraft because I got a glimpse of both what the prior company had been like, and what they all hoped to achieve in the future.

B. Assessment of Learning and Development

I had not really considered the food industry before as a chemical engineering field, but we don't realize how much planning, thought, testing, and processing decisions are behind each product we take off a shelf in a grocery store. Many Kraft brands are staples in foods and drinks I have had all my life, and I don't usually think of all the hard working people behind them. I have decided to take a Food Chemistry class next semester to help me get more of a background in the food sciences, because it is an important industry that I am seriously considering being a part of after my experience at Kraft this fall.

I have developed my interpersonal skills as almost all of my work involved collaboration. I was clueless about the coffee business when I started, and I tried to take advantage of the abundance of knowledge surrounding me to try and learn as much as I
could. Thankfully, the culture at Kraft is very open and relaxed, and everyone was more than willing to share their experiences and knowledge about coffee.

If I were to go through the experience again, I would ask even more questions. It took me a little longer than I would have preferred to catch on to everything that was going on with coffee and what I really needed to accomplish, and I think it would have been easier if I had asked more questions rather than tried to figure it out completely in my own head first.

C. Life Outside Co-op

The HR department at Kraft actually took care of all the housing arrangements for me. They subsidize very nice apartments about eight miles from the site. I brought a car with me and it took about 15 minutes to get to work each day. There really isn’t convenient public transportation to get to work, so it was very beneficial to have a car.

The train station is only a block away with a 35-45 minute train ride to Grand Central Station, so it is very easy to get into New York City. I had a few friends in nearby co-ops as well as living in the city, so I went there a lot to visit and explore. I love Broadway, so I made sure to see a show or two! Also, my friends at work and I got together to watch movies and hang out pretty often.

D. Evaluation

The best features of this job were the people I got the chance to work with. They were all very welcoming and had so much experience and knowledge to bring to the team. I enjoyed going to work each day.

The only negative aspects of doing a co-op for me were missing a semester on campus and being a bit lonely in my single apartment. However, I visited school a few times over the semester and made sure to meet up with friends near the city and from work.

After a couple of intense years at Cornell, it was definitely nice to have a relaxing few months where there wasn’t any work to do after 5 pm!!

E. Additional Information

If you have any questions about co-op or Kraft Foods, I would be happy to give you answers or advice! Just send me an email at clc246@cornell.edu. Good luck!
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Overall my experience working for Mondelez International (formerly Kraft Foods) has been a very positive one. Aside from the great work experience and professional experience, the life outside of work experience I also got was really beneficial to my future.

One of the best experiences was the independence I received from my boss. At first this independence was a little overwhelming. I was not sure if I was doing the right thing or moving in the right direction with my project. This forced me to speak with many people within the company. I didn’t know it then but my boss was doing the best thing he could for me at that point in my career and professional development. He was forcing me to network. I would not see the beauty of this skill until later in my co-op when I was asking myself “I wonder who can help me with this?” and realizing I knew the answer. Some very good advice I received early on in my co-op was that “who you know is just as important as what you know.” Being able to ask for help and, more importantly, knowing WHO to ask for help can be a very important skill for young engineers and professionals in general, to learn. All of the people I met with during my first few weeks, and throughout my co-op, were very valuable technical experts that I readily took advantage of once my project became tough and I began facing challenges that I could not overcome on my own.

Another great experience I gained from my co-op was working with a functioning interdisciplinary project group. I was assigned a project with a technical process engineer (my boss) and two experienced product developers. One thing you can’t take away from a classroom at Cornell is working with people from different backgrounds and who have different experiences. However, some of the most important things I learned were from the product developers. Coming into an industry you have no knowledge about (I had never baked a cookie before coming to Mondelez International...seriously) can be very challenging and intimidating. However, my team was extremely knowledgeable and extremely helpful in providing me with a guiding light throughout the project. They would speak with me as if I was their equal despite
my lack in credentials in working with baked goods. I think this cross function interactions is very important for industry development and is a growing lesson many engineers at Cornell do not get during their undergraduate experience.

Another great takeaway from my experience here has been the ability to see where my degree could take me. As a chemical engineering student you always hear about the great opportunities that you will have after graduation. However, most of the time you don’t really see the specifics of these opportunities until you come to work for a corporation like Mondelēz International. I have met chemical engineers who work strictly on process development in a very technical manner. On the other end of the spectrum I have met with a chemE graduate who works leading a marketing platform on the business side. As a chemE your opportunities are quite literally endless. Also an interesting experience for me is seeing the different capacities in which chemE’s work. As a co-op student I was able to see how all the things I have learned in the classroom apply to the real world. I was also able to tie in other aspects of working in consumer goods that you don’t touch in the classroom environment, such as how consumer perception and needs ultimately decide the success or failure of a project and also how a project is approached. In the long run the people who buy the products Mondelēz International produces decides how and what we work on. This is both exciting and motivating. Knowing something you are working on is being sold at a store and people buy it to partake in the joy of snacking can be invigorating. Overall, the exposure you get to many different aspects of the corporation as a whole is a very thrilling part of being a co-op student.

Mondelēz International also has a great work environment. When I first arrived at the company I expected to be treated like I was below most of the employees, due to my co-op status. However, immediately my team I received respect and my word was given some weight in almost any conversation concerning our project. I didn’t feel like any of my ideas were being swept under the rug and I felt like people were really listening to me. Outside of technical expertise, the people at the company were overall just very nice and welcoming. Already by my second week I had made a good friend and was close with many others. At first I was nervous because I am a guy who loves to joke around and I was scared, in a professional environment, this would not be welcome. However, once I had made friends it was very common around
work to crack a few jokes, making me feel more at ease. Besides that I also got involved with the RD&Q fun team which I was readily accepted into and given responsibility. During my co-op we set up a pumpkin decorating event and decorated the main foyer of our tech center building for Halloween. Also starting around the holidays, members of my lab wing and I decorated our wing with the theme “holidays around the world” as an homage to our newly formed global company. Aside from this there is ample opportunity for co-ops to get involved in jersey co-ed sports teams composed of company members whose participation spans all the way from volleyball to kickball. Also at the company there are various interest groups such as the Asian American Employees Council and the Rainbow Council. There really is a place for everyone here at Mondelēz International.

Outside of work, Morristown, NJ, where I was placed in subsidized housing, (You read right...Mondelēz International pays most of the rent for some of the best housing I will probably stay in in my life) is a great place for young people. There is a ton of restaurants and bars and on the weekends (including Thursdays!..and Tuesdays!...everyday really) it is a great place to grab a bite with friends or meet your co-workers out for a happy hour. Another thing I took advantage of outside of work is Morristown’s close proximity to NYC. It is a simple hour train ride away and I went into the city to meet with friends almost every weekend. I really loved the convenience of the train station (which was located a 5 minute walk from my apartment) and the safety of the parking garage for my car (also included in the housing). I would say, aside from Collegetown, there is no place I would rather be.

All in all, the Mondelēz International experience that I was lucky enough to go through was an amazing one for me. I learned a lot of new things about myself, corporate life, professionalism and the food industry as a whole. I do not regret working as a co-op student for one second. Although it can be hard to give up at whole semester up on the snowy blowy hill, I think the experience I got as a co-op made it all worth the while.
Co-op Work Assignment

This summer I worked in the ingredient technology R&D division of Mondelez. The function of this group in the company was to provide upfront research for new and developing technologies. I worked in the gum and candy division so for me it was working to develop a new coating to be applied to the gum surface. The interesting part of my project was that I took on the whole technology development platform. Which means I was working on multiple aspects of the technology at the same time (stability, sensory development, processability etc.). This was a big change from the fall because I was forced to spread myself thinner and stay much more organized and on top of multiple different functions. It was a great learning experience for me at this point in my career.

I spent most of my time in the lab running experiments and collecting results to see how alterations to the coating were affecting different aspects we were looking at. I was initially trained in my first week there and then I hit the ground running working diligently to complete the amalgam of experiments I was going to be running throughout the summer. It was an aggressive learning curve but one I was able to easily stay on top of.

I spent most of my time working with my manager to analyze the data from our experiments and moving forward to further deep dive into the technology. She was also my point person for my professional development as well. I also had a technical advisor that I would approach with any other questions I had. It was nice to have two different people to run my ideas through as well developing my own expertise and ideas as well.

Assessment of Learning and Development

I would say that my job this summer was very much a product development job so not much of what I learned in my classes directly applied to my job in a literal sense. However, many of the experimental formalities and also my thought and problem solving skills were applied from my classes.

This learning experience was great for my professional development. I learned a lot about the importance of networking or “moving and shaking.” I also learned that even in a technical role this is important so when you have a question you can consult technical experts. This position helped me learn a lot about myself as a professional as well. I realized I don’t like research-intensive roles and I prefer to coordinate and working the pilot plant.

If I were going through this experience again I would try to come in with a more open mind. After my co-op I thought this experience would be similar and it would be easy for me. However, this was not the case.
Life Out-side of Co-op

Mondelez sets you up with corporate housing in Union, NJ, which is only 30 minutes outside the city. You pay $150 a week for housing that costs upward of $2500 a month. It’s a pretty awesome deal! For transportation I drove my car. However, my roommate and the other employee from the University of Puerto Rico car-pooled with me and we split the gas money, which was nice. There are many opportunities for social experiences over the summer when all the interns are present. We had a three-day all intern emersion event, which allowed us to take a boat tour and have a networking event across the Hudson from NYC with a beautiful view of the city. Mondelez offered some opportunities to play on sports teams with full time employees and also to volunteer one day during the summer!

Evaluation

Pros: professional development, unique application of engineering principles, mobility in the company, intern experience, great experience with a huge name company, interaction with business and marketing needs, technical development, expanding network, large Cornell alumni network, relaxed culture, no set hours or clocking in or clocking out

Cons: housing 40 minutes from work, a lot of work in a short amount of time
A. Co-op Work Assignment

For my fall co-op term, I worked in Research Development & Quality (R&DQ) in a Global Biscuit Process Development role at the East Hanover site. The project group that I was in was Oreo Line of the Future (OLOF), but more specifically, I worked on Oreo crème. Although Oreos have been around for over 100 years, there has not been a lot of scientific data regarding it until recent years. My project was to work closely with the Research Lipids group to first commission a lab-scale votation unit and then use it to study the effect of varying different parameters on the crème texture and rheology.

A votation unit is essentially a scraped surface heat exchanger that cools and crystallizes the crème slurry input and produces the final crème. The parameters that our unit allowed us to control were temperature differential (between inlet and outlet), pressure, votator barrel rpm, aeration levels, and flow rate. My first step was to establish a baseline for our unit so that the crème produced was within specifications to crème used in the bakeries. After this, we analyzed the relationship between a parameter, such as votator barrel rpm, to the properties of the finished product. I wrote two standard operating procedures for the votation unit, a general one and one specific to Oreo crème to ensure that my project could continue after I left. The original plan of this project also included looking into using different fats and ingredient ratios to produce the crème. However, due to troubleshooting issues with the equipment, this was not able to be accomplished during my time here.

As far as training goes, I was given a general company orientation the first day. In addition, I received technical training on the votation unit when the vendor came on-site for commissioning.

B. Assessment of Learning and Development

In my role, I used a little of fluid mechanics, since Oreo crème is a non-Newtonian fluid. Also, because the votation unit is a heat exchanger, I used basic heat transfer principles to understand the process. I learned a lot about the corporate environment, since this is my first industry experience. Throughout the course of this semester, I feel like I gained much more confidence, familiarity, and communication skills. My work this semester was very research oriented, so there were no set deadlines. Since I worked independently a lot of the time, I had to hold myself accountable to certain deliverables and make sure to push the project along. This was a valuable experience and it has reaffirmed my decision to pursue chemical engineering. If I had to do this experience again, I would probably be more outgoing during my first few weeks here and taken the opportunity to meet more people outside my project group.

C. Life Outside of Co-op

As far as housing goes, I would definitely recommend taking their subsidized housing. The apartment complex is in Morristown, about 20-25 minutes away from the office in East
Hanover and 40-45 minutes away from the pilot plant in Fair Lawn. It was significantly cheaper than my off-campus apartment at Cornell and also much nicer. It’s completely furnished and there’s also cable, internet, housekeeping and a small fitness center. Mondelēz International also has a gym on-site for employees.

For transportation, it’s necessary to have a car, because the pilot plant is off-site. Parking is provided in a parking garage down the street from the apartment complex. Morristown is also a really quaint area. There’s a small park into the middle of the town and multiple restaurants within walking distance from the apartment. They also have festivals and such on the weekends. In the town, there’s a train station that is a 10 minute walk from the apartment. It’s about an hour train ride into New York City and it’s pretty convenient.

D. Evaluation

Best Features:

One of the things that I enjoyed about this assignment was the level of independence I was given. I always felt like I was treated as a colleague, and not just a co-op or intern. People are very friendly, generally passionate about their work, and happy to answer any questions you have. In addition, there’s a good work-life balance and hours are pretty flexible as long as you get everything done. I rarely had to work from home.

Worst Features:

I would have liked to use more of my engineering knowledge and what I learned in academic settings. I did need to apply a little bit of fluid mechanics and heat transfer, but it was minimal. However, the project was challenging in different ways and I do feel like I learned a lot in other facets.

E. Additional Info

Overall, this semester has been a great experience and I’m very glad I had the opportunity. I’ve definitely grown in both personal and professional ways. Feel free to contact me if you have any questions about Mondelēz International, or co-ops in general.
A. Co-op Work Assignment

During my summer term, I was a Research, Development & Quality (RD&Q) Intern. I was in a product development role, which is something that I had requested because my last term was a process development role. I had two main projects during my term. My projects were focused on working with formulations for two different cracker brands. In order to do this, I needed to understand cracker technology, process, and analyses as well as gain knowledge of ingredients in crackers. Following that, I developed formulations, conducted bench top experiments, and conducted pilot plant trials. With the product samples from the pilot plant, I then led product tastings with RD&Q, business teams and sensory.

There was an orientation on the first day for all the interns and my manager gave me some readings to familiarize myself with the project at the beginning. Outside of my manager, I had a technical advisor and a buddy to show me around. For questions, I typically approached my manager, technical advisor, and various internal experts.

B. Assessment of Learning and Development

Although I didn’t directly apply most of the material I had learned in classes, I did feel like I was able to apply general concepts and problem solving skills that I had gained. This was valuable industry experience for me, since it was the first time I had been exposed to a work environment. I learned how important it was to network and meet different people because their experiences can be key to my project. Another thing I learned that was extremely valuable was personal accountability. I didn't have many firm deadlines, but it was important to make sure I was on track for my work. I don’t think I would have done anything differently.

C. Life Outside of Co-op

For my co-op term, Mondelez provided subsidized housing at an extended stay hotel. Most of the co-ops/interns stayed at the same location. I would definitely recommend taking the housing option unless you have family in the area, as it is a very good deal. I would also strongly recommend that you bring a car if possible. Not only is there a commute to work, it was also necessary to drive to the grocery store, run errands, etc. Over the summer though, there were a lot of interns, so carpooling is a possibility if you don’t have a car. The Union housing location is right across the train station that gets to New York City in about half an hour, so I spent most of my weekends in the city. Otherwise, there were things to do around the apartment. We had informal intern activities such as going to a karaoke bar, mini golfing, or going to the movies.
D. Evaluation
The best feature about this job was definitely the company atmosphere. Everyone at Mondelez was very friendly and helpful. Whenever I had questions regarding my project, I knew that there were multiple people to reach out to. Also, we were encouraged to set up 1 on 1 meetings with lots of different people so we were able to get a more holistic view of what work at Mondelez can be. Work hours are also very flexible as long as you get your work and projects done.
The worst feature of this job was more of a personal assessment. I simply realized that the food industry isn't what I want to pursue in a career after college. However, I’m still very grateful for this experience and I learned a lot during my time at the company.

E. Additional Info
If you have any questions, feel free to reach out to me (mmw86@cornell.edu). I’d love to speak about my experiences at Mondelez International.