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Civil Engineering
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My overall work experience at Simpson, Gumpertz & Heger was very positive. From my first day of work I could tell that my supervisor and co-workers had my best interest in mind. Not only did they try to expose me to projects that were of great significance to the company, but they explained all my tasks very well and encouraged me to ask questions. I can say with confidence that my time with SGH was valuable to myself personally as well as my career.

Most of the time, I worked under the structural engineering division on the design team. My tasks usually entailed using AutoCAD to alter drawings as the projects progressed. Very often, I was kept working on the same project for an extended period of time, even if the task was not drafting. As a result, I learned a good deal about the way that a project is carried out from the start. One of the first major jobs I worked on was Aga Khan University in Karachi, Pakistan. I assisted in the drafting of the schematic design. As one of my first assignments, it was fascinating for me not only to observe design in its beginning stages but to see how an international project was handled. In addition to drafting, I did some arranging of documents as well as other organizational tasks to aid the engineers. Occasionally, I was taken into the field to assist with inspections and to observe civil engineering first hand. While some tasks were menial, I can honestly say that I gained something from almost every job I was given.

Much of what I needed to know for my co-op was taught to me by one specific supervisor as was necessary; there was no formal training session. I reported to this supervisor daily who would either assign me work or send me to specific people who he
knew had work for me. My learning process was ongoing and my knowledge of working in the civil engineering field grew a little each day. I did realize, however, that very little of what I needed to know for the job was taught to me in school because there is so much that can only be learned through experience. As a result, co-op helped me to figure out what I want to do with my future. While I was interested by all the work I did, I discovered how technical it was and realized that I was more interested in the architectural design of a building than the very structural aspects.

One of the greatest obstacles I had to overcome was adjusting to a very different situation in terms of social life and my daily schedule. My work day began much earlier than classes for school and went later with a break only for lunch. It was difficult for me to get used to being in the same place for 9 hours each day instead of having the opportunity to walk around campus from class to class. Socially, it was a challenge to adjust to not living with students my age and having them as an emotional support and outlet. I chose to live with a family friend who is a couple in their 50s. While I got along with them well and enjoyed their company, I did miss spending time with people my age. If I could go back and chose a different living situation, I would have opted to live with younger roommates. Fortunately, there were 9 other co-ops in my office and I did form friendships with them which often made work enjoyable.

Ultimately, I do not regret my decision at all to participate in co-op and I'm very grateful that I had the opportunity to work for Simpson, Gumpertz & Heger. I met many great people who taught me numerous things about civil engineering and myself. I don't have much base of comparison, but I feel that this company is making great strides in its
field and doing many beneficial things for its employees as well. I look forward to working with SGH again next summer.
I spent the first term of my co-op in the Waltham, MA office of Simpson, Gumpertz & Heger but this summer I switched to New York City. I was able to live at home and commute to work by train which I found a lot easier than my drive to work in Waltham. Overall, I found the switch to be a good move not only because I love New York City and was able to live at home, but that the ability to view the company from a different perspective was invaluable. The difference in projects due to the demands of each city also broadened my knowledge of civil engineering work.

The New York office is about an eighth of the size of Waltham, therefore structural engineering and building technology are the only two divisions. Just as in Waltham, my assignments were all in structural engineering. I worked regularly with Nathaniel Smith who performs mostly investigational work. Many of my tasks involved going on site visits with him, documenting the condition of the building under investigation, and helping to compile a written report accompanied by photos. Several of the projects I worked on addressed settlement of one structure due to adjacent construction, something I learned is very common in New York City where buildings are old and very close together.

Another project that Nathaniel is very involved in is a portion of the slurry wall re-support at the World Trade Center Memorial Museum. SGH is currently in the construction administration phase of the project and he brought me to the site a few times to observe for himself and explain to me what was going on. I learned a lot about tieback supported concrete walls and the complexity of a project the size of this one.
Aside from being a civil engineer, as a New Yorker it was fascinating for me to see the construction at the World Trade Center up close. I did some work on a few projects for other engineers in the office as well but since I have not taken my full course of structural engineering classes yet, it was more of a challenge to get me involved in many of the design projects. I was given the chance to do a few simple calculations, however, and it was valuable for me to see how my classes applied to real world.

Working here this summer definitely helped me grow as an engineer and my knowledge of the field has expanded even more since my first co-op term. The tasks I was given here were very different from my first term and I felt that I had more freedom to make decisions on my own for a few projects. The few open-ended assignments I was given forced me to challenge myself and I'm glad that I had that opportunity to learn what I was capable of. One task that myself and another co-op took on ourselves was to prepare and present a lunch talk about the co-op program at SGH and the students themselves. I learned a great deal working with a fellow co-worker about how co-ops and interns contribute to the company and the different projects we're given to work on. The number of visits to the field was greater here than in Waltham and that added even more to my learning experience.

Overall, I had a great co-op this summer in the New York office. I am very pleased with my decision to work in a different city and think that I learned more by doing so than I would have if I stayed in Waltham. The combined experience of both co-op work terms has confirmed for me that structural engineering is a career path that I could pursue. I would highly recommend other students to look into a co-op or internship with Simpson, Gumpertz & Heger.
Job Summary: Term 1

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My official position at Simpson Gumpertz & Heger (SGH) was a co-op for the BT or Building Technology team. On paper, I worked for them. In actuality, the borders at SGH are not so easily defined. If anyone in the office has work, it can be assigned to one of the co-ops. This exposed me to many different aspects of civil engineering. At different times, I worked as a drafter, researcher, lab technician, field tester, and all-around grunt.

At SGH most of the students in the co-op program are grouped in one area called the "Co-op corral." This was a smart idea on SGH’s part for two reasons: Firstly, I was constantly surrounded by other college students going through the same experience as I. If I had any questions about my assignment or if I was just lonely, I was able to talk to a group of my peers. Secondly, if anyone in the office needed some help they could simply walk by the corral and find a co-op. I did not have to waste my or the company’s time looking for an assignment.

At the beginning of term, all the coops received a brief orientation. This familiarized us with the office, its different departments, and with some of the HR and administrative processes. I was also assigned a “buddy.” This was a person at SGH who was relatively new to the firm and was available to show me around and answer my questions. This was mostly only for the first few days to help me get my bearings. Most of the training was provided informally. I would be taught how to perform a task when it was given to me. If I had a problem, I could ask anyone in the office and they would answer my questions. I was also given many tutorials on the specific computer programs that I might use, such as Autocad and Revit. Finally, I learned from the lunch talks that took place every week. At these talks, either a guest speaker or an employee would present on a topic that was related to civil engineering. These topics spanned from new products to briefings on SGH projects.

As mentioned above, I was assigned many different types of assignments on various projects. In the laboratory, I calibrated field equipment and performed material property tests. These included tensile strength, permeability, and reactivity tests. One major project was the creation of a comprehensive database for the lab. I spent approximately a week cataloging the various chemicals stored around the building. Another significant activity was the editing of building plans and details with Autocad. Usually, I would be given a drawing with some markups, and I would have to either create or alter a computer file accordingly. These were normally jobs that would only take a few hours, but cumulatively they added up to a significant amount of time. This also exposed me to many of SGH’s projects as the drawings would be for any one of a dozen separate buildings they were working on. I also spent a few days in the field testing the waterproof membrane of a roof to ensure that it had been applied properly. Finally, for the last few weeks of my term, I researched construction projects and papers which involved a material called soil-cement. This involved reading the information, sorting it, and putting the relevant parts into an easily understandable layout.

Besides being a job, my co-op term was also fun. The office setting was very informal and comfortable. During Halloween, people dressed up and carved pumpkins. A party was held before Thanksgiving which included good food and games. SGH also organized team activities. There were a few sports teams that anyone could sign up for including basketball and softball. Also, periodically, there were building competitions. During my term, there was a gingerbread house contest just before Christmas.
I learned many things about civil engineering during the course of my term. For example, liability is always a very important consideration. Even the smallest construction project can involve literally hundreds of drawings and thousands of documents. Every aspect of a building has to be designed, placed properly, tested, and redesigned when the contractor makes a mistake. Most importantly, I learned how to work in an office setting. As a student, I was relatively unused to being part of a team for extended periods of time. Also, I had never worked before in a formal environment. With this co-op, I had to adjust to working for a set amount of time, at a set time of day. I was relied upon by others to finish my tasks in a timely manner so that they could finish theirs. My work had to meet a certain standard. Even the smallest task had to be approached with enthusiasm because every job had a purpose.

But work is not everything. Boston is a great city. There are dozens of colleges and thousands of students. If you want to go out, I recommend listening to a concert in the commons or attending a Patriots football game. Housing is not a serious issue as landlords are used to college students. Housing quality depends on your budget and the area. For smaller budgets, I recommend Craigslist. It usually has a good selection of cheaper college rentals. I personally found an apartment through a cousin, but I saw some good places online. Location is a bit tricky as you have to take your office address into consideration. I worked in Waltham, but I would not recommend searching for a place in that area. In the small towns outside Boston like Waltham, there is not as much choice for housing or activities. Your best bet is to live closer to Boston and commute to work. Public transportation can be good, but it is very dependent on where you want to go. It is best within or close to downtown. As you go further out, trips take much longer because of all the transfers. The best way to get around Boston, outside of the downtown area, is to own a car. The only problem with this option is parking can be expensive and Bostonians are terrible drivers.

The worst feature of the job was that co-ops had the lowest priority for work. While this would not have been a problem during normal economic times, during the recession there were periods of time where there was almost no work at all for co-ops. As a result, I spent a few days working on online tutorials and searching for jobs to do. This was not SGH’s fault as every company involved in construction was also having a very hard time, but the lack of a purpose was pretty depressing.

The best feature of the job was that it was consistently interesting. By working in many different capacities on several different projects, I was able to learn more and experience a wider set of SGH’s work. I followed a few different projects for the entire term, but I never work exclusively on one project for a long period of time. There was a good mix of being able to see how a job progresses but also, at the same time, having the opportunity to work on a wide variety of assignments. This approach helped make my time at SGH a truly enjoyable and educational experience.

In conclusion, I believe that the most important question in determining whether my time at SGH was beneficial is whether the co-op was better than anything else I could have done. With SGH, that question was easy to answer.
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Simpson Gumpertz and Heger
Term 1

The training provided during the Orientation was mainly provided to get familiar with the working culture and departments in the company. Although there was no official technical orientation, training was readily available through many employees throughout the company anytime during my working period. When you are assigned a job, there will always be someone that could and will assist you or help you work your way through. The tasks given were mainly need-based, meaning that I didn’t have a specific function during my work term; therefore, I had the chance to have a grasp in various services that the company offered, from investigating failing structures to planning reparations to examining lawsuits and class actions. Being exposed to different projects was the aspect that I liked the most about working in SGH, since it honed and challenged my ability to adapt to and learn from unprecedented projects. In a nutshell, some of the tasks I’ve performed were drafting and editing blueprints, calculating reparation costs, researching documents as well as participating in discussions to deal with lawsuits, and performing site settlement surveys. The always changing tasks was the aspect I liked the most about working in SGH: projects were unpredictable and different. I was assigned a mentor to get familiar with the working environment and any logistics in the company; however, whenever I needed help with a project, I would approach someone with more expertise in the project field.
I can’t imagine I would have been happier working at any firm other than Simpson Gumpertz and Heger. Within hours of my first day, I knew I had made the right decision in going to work for the Boston-based firm. It came to know surprise that this company had been consistently ranked as one of the best firms to work for. I had my thoughts and expectations for what working for a civil engineering firm would be like. SGH met, if not exceeded all of these anticipations. I spent the better part of my first day in orientation, learning how to navigate the company’s network and meeting the people around me. SGH treated me to my first meal with an assigned mentor who just happened to be a recent Cornell graduate. It didn’t take very long at all for me to feel comfortable in my new place of employment.

Although the HR staff did a great job with orientation, I was trying to get my hands on some actual work and away from setting up my email as soon as possible. The people at SGH are very used to hiring co-ops and they definitely knew how to use us (there were two other students working during my term, two from Northeastern and one from Waterloo, CA). Instead of getting assigned to one or two projects for the entire term, I was constantly being added to project teams completing a range of different tasks. Sometimes I would get a call for something quick, either a calculation check or a short estimate of measurements from a drawing. Other times I would be notified to make sure I had the next two weeks free for a certain project or site visit.

Of all the different projects I got my hands on, the most notable, challenging and fun would have to be my work on the IKO shingle investigation and the monitoring of the First Church of Christian Scientist (TFCCS) construction. Both were extremely different projects. As consulting engineers, a group of lawyers hired us as expert witnesses in a class action lawsuit against IKO Manufacturing Inc. The scope of our work was to determine whether or not the shingles IKO was producing met current standards of quality according to ASTM and other institutions. I was able to get my hands on many parts of this project, from cutting and testing shingles in the lab to drafting the final report that went out to our client.

As for TFCCS, its foundation has been sinking for the past 30 years into the much that all of Boston rests upon. Part of our work for this building was to design new supports for the building to stand on. During the construction of these new supports, another engineer from SGH and myself constantly surveyed the basement where the drilling was taking place to monitor the displacement of the structural walls over time. It was definitely a nice opportunity to get away from my desk a couple times a week and get my hands dirty.

Someone once told me that you forget everything you learn at school on the first day of work. I couldn’t have said it better myself. I saw very little overlaps in what I’ve experienced in the classroom and what I was forced to deal with in the workplace. That’s not to say my education didn’t help me at all through his
experience. All of the classroom work I've had to complete with other people really helped me be a team player in such a dynamic environment. At SGH, teamwork was the name of the game. I was constantly going to see different people for different things. I rarely stayed in the same place for very long, and I loved that.

Although I learned a lot of valuable technical experience, I also learned a lot about what it's like to be a civil engineer and the different career paths that lay ahead of me. Every person I worked with, whether they had just started as a Staff I or they were Senior Principal that had helped found the company was more than willing to answer my questions about the projects or personal development. Everyone at SGH was interested in helping one another.

In terms of living life in the real world, Boston was a great place to do it. My office was in Waltham, ten minutes west of downtown. I knew living close to the city would be expensive, so I turned to Craig's List and found a sublet in Lexington, fifteen minutes north of Waltham. I enjoyed having my own car and commuting every day. Next summer, I plan on living closer to the downtown area as opposed to the colonial suburbs of Lexington. Being near a big city also helped with my social life. I was able to hang out with a lot of people I knew that were in Boston at the time. I even joined a soccer team with a group of people from work and we played every Wednesday night. Everything I experienced, from the technical work to the life outside the office, fulfilled my expectations to the fullest. I don't think I've made a better decision in my life than working as a co-op for Simpson Gumpertz & Heger.