

Molly Hill

Minnesota State University, Mankato

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Welcome to my site!

My name is Molly Hill and I am a senior at Minnesota State University, Mankato. I am majoring in civil engineering with a minor in mathematics. After graduation in May of 2023, I plan on attending graduate school to become a water resources engineer.

Mission Statement:

I will devote myself to my studies and stay committed to all that I am involved in. I will keep an open mind and give my best effort as I approach school, my future career, and life.

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Minnesota State University, Mankato Honors Program

Mission Statement:

"The mission of the Honors Program at Minnesota State University, Mankato is to create future leaders, researchers, and global citizens by providing high ability and motivated students with exceptional learning opportunities, mentoring relationships, and a community of scholars that foster their development as future leaders in a global society."

Competencies:

Leadership

"Upon graduation, honors students will have demonstrated the ability to utilize personal leadership values and guide groups toward a common goal."

Research

"Upon graduation, honors students will have demonstrated the ability to exhibit information literacy skills, synthesize and integrate ideas, produce original research or creative work, and contribute to knowledge."

Global Citizenship

"Upon graduation, honors students will have demonstrated an increased self-awareness of their own and other cultures and knowledge and understanding of cultural perspectives. Students will have experiences outside of the classroom to develop their own framework for intercultural engagement."

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Leadership

ASCE Secretary

Primary Student Researcher

HONR 401 & 499

Student Ambassador

Before entering college, I viewed a leader as someone who held a leadership position. I thought a leader was someone who was the captain of a team or president of an organization. Since being in the Honors Program, I have learned that being a leader does not mean holding the highest position. In my experience, people lead in different ways, and everyone possesses their own leadership styles. I have found that I vary in the way I lead based on situation and group dynamic.

Through my involvement in [Student Ambassadors](#), I've been able to grow my leadership value of flexibility in that our routes and dialogues are never the same. Although I consider myself to be a very structured person, I've made a conscious effort to stay flexible to a change of plans or new ideas in the groups I'm involved in. I have utilized this valuable leadership skill as the [Secretary of ASCE](#) (American Society of Civil Engineers) in that board members are constantly coming up with new ideas which I welcome. Not only do I vary the way I lead in a single situation, but I also vary the way I lead from group to group.

During my experience as a [Primary Student Researcher](#), I found myself taking control of the project when it was not necessary. By being aware of this leadership flaw, I was able to divide tasks with my research partner. Through this experience, I formed a leadership theory that tasks are completed more efficiently when the leader of a group divides tasks so that group members feel they are needed. In such cases, I need to take a step back as a leader where in other cases I need to take a more active role as a leader. In my [HONR 401 and 499](#) courses, I needed to step up as leader. My group wasn't motivated to complete their work, and, in these situations, I find it necessary to direct the flow of work and conversation. This helped me form a leadership philosophy for working in groups: when equal collaboration is not possible, it may be necessary to guide the group towards equal contribution to the workload.

While I have been involved in groups that need motivation to contribute, I have also been involved in groups in which everyone contributes naturally. As the [ASCE Secretary](#), I have observed how well our board works together. We can complete team goals as one unit because every member of our team is open to new ideas and is willing to help cover duties for each other. Everyone is committed to the society so my leadership role in ASCE is a lot less demanding than it was in [HONR 401 and 499](#). In my future career as a civil engineer, it will be crucial that I adjust leadership styles according to the group I am working in. It is also important that I stay flexible and am aware of leadership weaknesses to improve. Lastly, I know how to lead motivated and unmotivated groups which gives me confidence to utilize my leadership skills in the workforce.

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Research

[Water Resources](#)

[URC Independent](#)

[HONR 401 & 499](#)

[Technical Communication](#)

During my time at MNSU, Mankato, I have learned that research looks very different depending on one's profession and goals of the data. In some instances, research is performed in a laboratory over the course of years, while in other instances, research is a survey sent out to the entire population or certain demographics of people. It all comes back to what goal the research aims to achieve. In any case, ethical research follows a research process which includes information gathering and dissemination of results, amongst other steps. It is important to start any research project by viewing previous studies. This will reveal similar experiments or gaps in the research that has already been done on a topic. Viewing and building upon existing research is only possible when researchers disseminate their work.

My most extensive research project was with a faculty member whose focus is water resource engineering. At the beginning of my [Water Resources Research](#), the team found credible sources to help start our project. We were able to use experiments of similar scope to find a good estimate of starting quantities in our own research. This saved us time and resources, which is one of the reasons why dissemination is so vital in reinforcing the research community. Similarly, in my technical writing course, I used existing research to help form the research question for my [Technical Communication Project](#). In this case, I found a gap in existing research and was able to complete a research project to explore what hadn't been done in other experiments. In both experiments, I used previous research to get a good starting point for my own research.

Both data collection phases of my [Water Resources Research](#) and [Technical Communication Project](#) were physical experiments. While this is the typical view of research, I also performed a study in which data collection was in survey form and not done experimentally. For my honors research courses, [HONR 401 & HONR 499](#), we spent an entire semester preparing to create and send out a survey. My team and I collected and reviewed many articles which we organized into a literature review. This helped us form our first research question and eventually our second, and final, research question. Previous research studies were a crucial starting point to this project. In the two projects and the survey based study, it was helpful that scholars had shared their research publicly.

As a researcher, two of my projects were supported by the Undergraduate Research Center (URC) which resulted in public dissemination. In my [URC Independent Research](#) project, my research partner and I were able to share our work at the Undergraduate Research Symposium (URS). Although our results weren't conclusive, it is still important that we shared our research so that others could learn from it. For this research project, we were able to present our research in person. In my [HONR 401 & HONR 499](#) courses, we presented our research virtually at the URS. In all four of my research experiences, I learned that research is much more than the data collection phase.

When I start my career as an engineer, I will revisit some of the concepts that the research process has taught me. When starting a new project, I will look at similar, previously completed projects so that I don't have to start a design from scratch. I will also need to present projects to the public and submit final reports which will be available for public viewing.

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Global Citizenship

[Pan-African Conference](#)

[Spain, Italy, & Greece](#)

[Nepali Research Partner](#)

[Spanish 102 & 201](#)

Throughout my time at MNSU, Mankato, I engaged with people from different cultures which is something I hadn't done much of in high school. Because I grew up in a mostly white, middle-income community, I didn't have much opportunity to learn from people from different cultures. My experiences in college made me realize that to become an empathetic member of society, one must do their part in listening to other people's stories and understanding that everyone comes from different backgrounds.

My first exposure to cultural differences occurred in my Spanish 102 and 201 courses, where we learned about Spanish culture through reading and practiced the language in a familiar setting. In my [HONR 201 Reflection on Spanish 102 and 201](#), I was able to connect a TED Talk titled "The Danger of a Single Story" with my lack of diversity growing up and my first exposure to a culture other than my own in my Spanish courses. Furthermore, I found that the truth everyone believes is based on their own experience and exposure. While I gained some experience speaking Spanish in my Spanish courses and at The Festival of Nations, I had the opportunity to speak Spanish on my trip to [Spain, Italy, and Greece](#) over winter break of 2022.

Unlike my Spanish courses, speaking in Spanish in Spain was tough because it was an unfamiliar setting for me. I sometimes felt self-conscious about my Spanish when speaking to native speakers. Overall, I found that the people in Spain appreciated me trying to speak in their language and attempting to adapt to their culture. I am now able to understand why my professor and classmate colleagues, whose first language is not English, express concern that they are misspeaking or misspelling words. In addition to learning about Spanish culture, I also learned about Nepali culture from my [Nepali Research Partner](#). He shared many unique Nepali practices with me which reinforced the notion that one's culture is largely based on their experiences. While my research partner taught me a lot about Nepal, he also taught me rules that I hadn't known about my own country as he described his experience as a senior international student.

In addition to learning new things about my own culture from my research partner, I learned even more at the [Pan-African Conference](#). The conference explored equity in education and again, I found myself learning through listening to other people's stories. What was not at all my reality in school, was sadly the reality for many black Americans. I was easily able to empathize with the speakers' stories and realized that there is still a large gap between black and white student experiences in America. Through my college experiences with diverse groups of people, I have become much more culturally aware as an individual.

In my future career as an engineer, I hope to help countless communities and people regardless of race, class, or gender orientation. As I continue to interact with individuals from different cultures, I will be cognizant that I do not know their background or the challenges they face compared to my own. Lastly, I will be compassionate toward people who are unfamiliar with my common cultural practices and be understanding of cultural practices different than my own.

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Bolton & Menk Intern (Fall 2022 - Present)

Support transportation group in wetland delineation, pipe network analysis, pond design, and stream restoration.

MnDOT Student Worker (Summer 2022)

Collected water samples, monitored traffic noise, tested bridges for lead, partook in a controlled burn, and utilized Excel for GHG reviews and spill locating.



My closing presentation summarizes the summer with MnDOT.

ISG Civil Engineering Intern (Summer 2021)

Inspected field work on two projects: wetland restoration and drainage tile.

Watercraft Inspector (Summer 2020)

Communicated with the public to support the organizations' goals of tracking invasive

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Certificates (2022)



FEMA Incident Command System



Highway Traffic Noise Trainings

Outstanding Underclassman (2020-2021)

This is an ASCE award; I was selected by the chapter and by the civil engineering faculty for my participation and performance in the field.



Student Ambassador of the Month (Jan. 2021)

I was voted by the Student Ambassador executive board because I was the only general member to attend a recruitment event and I brought two interested friends.



The Mav Award (2019-2020)

I was selected by my community advisor in the dorms for always being a friendly face in our hall, willing to talk to anyone, attending every event, and being reliable for helping with anything on the floor.



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