

# ENGINEERS WITHOUT BORDERS

*Lehigh University Chapter Newsletter*

## A Letter from the President Regarding COVID-19

Dear Friends and Alumni of EWB-Lehigh,

The Spring 2020 semester was an unexpected surprise for all of us. The COVID-19 pandemic had our students' efforts paused for a brief moment of uncertainty. This uncertainty was accompanied with students saying goodbye to our beloved mountaintop campus for the time being. I am proud of the club's efforts to regain some normalcy as they continued their work through project class and social class remotely. Before COVID-19, the Chapter looked forward to traveling to Cebadilla, Nicaragua this Summer 2020 to complete one last project-monitoring trip for our water distribution system. I am confident that when international travel can safely resume the chapter will continue its efforts in assisting the community.

Elizabeth Diaz, our program manager, is stepping down as the Nicaragua Program Engineer and is transitioning into a new role for EWB-USA. We wish Elizabeth all the best, and look forward to beginning working with Eric Lundborg as our Interim Program Engineer. The EWB-USA Conference has officially shifted to a virtual conference for November 2020. The executive board for the 2020-2021 was elected remotely for the first time ever. I am excited to see how they will transition with this upcoming school year and I am confident they will keep up the great work!

We thank everyone who has supported us in our efforts up until this point! This year we do not ask for donations to continue our club efforts, but instead encourage everyone to donate to efforts in response to COVID-19. We wish everyone to be healthy and happy in these unprecedented times!

Best Regards,  
Praveen Joseph  
Lehigh EWB President

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# Project Class Updates: Dominican Republic

## Water distribution

- This group is working towards designing a water distribution system for the community of El Manantial, Dominican Republic.
- Last semester, the team created two different maps displaying possible tank locations and pipe pathways for the distribution system. They also investigated the use of tap stands as an alternative to connecting every house to the distribution system due to the spread out nature of the community's homes.
- This semester, the group created a spreadsheet for all of the collected data and performed iterative calculations to find the water pressure at each assumed spigot location. The spreadsheet will make the work for future semesters more efficient because it parameterized the unknowns to allow for easy updating when more precise information becomes available. They also created a spreadsheet to calculate a price estimate of the pipe and tap stands based on approximately distances and pipe diameter.

## Water purification

- This group is focused on developing protocols for various water quality tests and determining the best options for the purification of water sources in-country.
- Last semester, the team began the process of preparing for our next travel trip. They ordered a bacterial coliform test kit and did practice lab tests on campus to develop a protocol manual for field use.
- This semester, the group completed the testing protocols for coliform, conductivity, turbidity, and pH. They also created a supply list and budget, as well as a training presentation to prepare the travel team for performing water quality tests in the field.

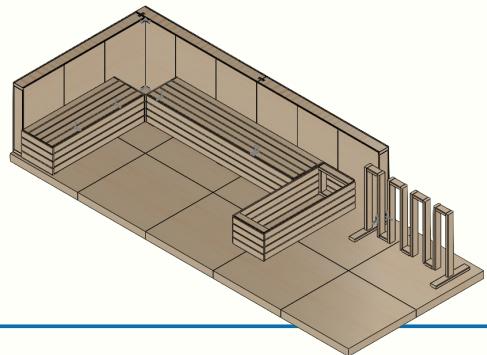
### **FUN FACT:**

EWB hosted midterm and final presentations through Zoom this semester!

## Project Class Updates: Southside Bethlehem

parklet

- This team is designing a parklet for Cutter's Bike Shop. Main design features include benches, a solar powered charging station, a flower bed, and a bike rack. Easy assembly and disassembly is required so that the parklet can be stored during the winter and reused in the next summer.
- Team members created SolidWorks models of the project throughout the course of the semester. Next steps include sending the design to Cutter's Bike Shop for feedback and discussing the soundness of the structure with the Lehigh Woodshop.



community  
garden

- This team is working to create an irrigation system on Lehigh's Goodman Campus for the Bethlehem Community Garden.
- Last semester, they focused on familiarizing themselves with the garden and the needs of the gardeners, taking all of the necessary measurements, designing the system, and finalizing flow rate calculations.
- This semester, the team has been preparing for implementation of the final design from last semester. The initial goal was to have the entire system available for gardener use by the summer, but this was not possible due to stay at home orders. Since the switch to remote learning, the team has developed a bill of materials with cost estimates, a multiphase construction timeline, and a finalized code that will allow for automatic tank refill and pump shutoff. Once onsite work becomes possible, this project can be implemented by team members and other volunteers.



## Social Class Updates

### Children's Health

- This group is developing a study to determine the impacts of the water distribution and filtration systems that Project Class is designing for use in El Manantial, Dominican Republic.
- In previous semesters, members did research regarding how water and sanitation affect children's health in rural communities similar to El Manantial. The group decided to focus their studies on water-borne illnesses like diarrheal disease, and they developed a survey to administer to local heads of households in El Manantial.
- This semester, they continued researching similar studies on water-borne illnesses. The group also updated the survey that was created in previous semesters and our Translating Chair, Cande Boffi, translated the survey to Spanish. They also applied to Lehigh grants that would provide required funding for travel and in-country costs so that the team may administer the survey and interviews. Unfortunately, the grant decisions have been postponed due to the COVID-19 pandemic. The group finished up the semester by finalizing and submitting an application for project approval by Lehigh's Institutional Review Board (IRB).

### CSR

- Corporate social responsibility (CSR) is defined as a company's commitment to manage the social, environmental, and economic effects of its operations responsibly and in line with public expectations. Efforts may include reinvesting profits in health and safety or environmental programs, supporting charitable organizations in the communities where a company operates, and promoting equal opportunities for all genders.
- In previous semesters, students researched companies who have CSR initiatives in line with EWB, such as Hanes' Vivendo Verde and Citigroup's Creando Tu Futuro, both of which have operations in the Dominican Republic.
- This semester, the group conducted additional research and began to reach out to EWB alumni from Hanes, Gildan, Deloitte, and Citigroup. Representatives from Merck and Citi responded via LinkedIn, and group members are still awaiting responses from Curb and KPMG. Moving forward, the team hopes to establish a long-term partnership with at least one company, research more companies to reach out to, and continue the existing dialogue.



## Semester Highlights

### T-SHIRTS



Our very own Isabel Steinthal created an original and hand-drawn design for this year's t-shirts. Although we left campus before their distribution, we're looking forward to seeing our club members rocking these in person when we safely return!

### CANDY GRAMS

This sweet fundraiser gave students and even families the opportunity to share some love and support from across campus to all the way across the world (because we're engineers WITHOUT borders). We took steps to ensure the packaging was as waste-free as possible and hope that we can continue spreading sustainable love next year!



### UPCYCLED

EWB collaborated with Eco Reps for Upcycled Design Night! Not sure what our group created, but they looked good doing it and we're proud of them!

**Thank you to everyone who donated to the crowdfunding campaign this past March. The campaign was shut down about halfway through its run and focuses were shifted to COVID-19 efforts. We will be picking the campaign back up again in the fall semester, so please consider supporting us then!**

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thank you!  
2019-2020  
E-BOARD



ENGINEERS WITHOUT BORDERS-USA  
LEHIGH UNIVERSITY STUDENT CHAPTER

