

ENGINEERS WITHOUT BORDERS

LAFAYETTE COLLEGE CHAPTER



LETTER FROM THE PRESIDENT

WRITTEN BY JAMES GALBRAITH

2022 was a very successful and productive year for Engineers Without Borders, as it has seen significant progress on multiple projects that will have a positive tangible impact on the local community, and many new members taking initiative on new projects. I have been extremely fortunate to serve as the club's president over the past year, and am very proud of the dedication embodied by the executive board, project leaders, and other general body members on a weekly basis. These people certainly made my job easier and allowed the club to continue to flourish.

I took over as president from Michael Aronson in November 2021 (my junior fall) after also previously having been the project leader for the team building a picnic table canopy for the Delaware Canal State Park (DCSP) in Upper Black Eddy, PA since my sophomore spring (I continued to serve as the project leader for this team throughout my presidency). Having project leader experience certainly helped ease the transition from being a general body member to being the president, although the presidency required a different leadership style in that it was slightly less detail-oriented and more administrative and broad. It was a style I was not quite used to embodying as a leader, since other leadership roles I have previously held in other contexts have been more hands-on and tactic-focused. However, Michael was very helpful during our transition period in encouraging me to approach the role with a more big-picture, strategic mindset. Being both a project leader and president helped me become a more well-rounded leader, and I am extremely grateful for the holistic leadership mindset the two roles have given me.

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A LOOK INSIDE

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PROJECT UPDATES

IN THE FINAL STAGES...

Micro Food Pantries



The Micro-Food Pantries group of Engineers Without Borders has done a great job on the project. We have designed, built, and installed a Micro-Food Pantry at Cornerstone Church in downtown Easton. We are currently working with the volunteers at the Church on data collection to gauge the pantry's usage. Our main current challenge with the project is maintaining the physical structure of the pantry, primarily due to the winter weather and wind conditions. As this was the first physical model, we weren't certain how it would hold up to these conditions, and we are planning improvements for future designs. We are collecting data in order to make a decision about the placement and construction of the future pantries, along with collecting data to provide an example of what success could look like for this type of project elsewhere. The Church has been very appreciative and collaborative with Engineers Without Borders on this important project that has and will positively impact the community of Easton.

PROJECT UPDATES

CLOSE TO COMPETITION

Delaware Canal State Park Picnic Table

This past year we saw lots of tangible progress for the team building a picnic table canopy for the Delaware Canal State Park (DCSP) in Upper Black Eddy, PA. This project certainly proved to be a logistical challenge, from working out design details to the formation of materials lists to the ordering and storage of parts. However, the team persevered, and we were ultimately able to order all the parts to Lafayette and build the roof/truss structure as a team outside of Acopian Engineering Center, and with the help of Lafayette Facilities Operations, deliver the structure to the park where it is currently being stored. We hope to finish construction and installation the third week in April, and are looking forward to realizing the finished product!



PROJECT UPDATES

Easton Community Garden

The Easton Community Garden Renovations are going well. We ordered stones to be added to a stone pathway for more accessible and wheelchair-friendly paths into and around the garden. The accessible garden bed tables are a little bit difficult as we have an approved design. The computer model has to be broken up into measurable components. They are clustered together and not easily measured. We plan to get the table measurements finalized and easy to read so that they can be looked over and approved. Then we will be able to order materials for the garden tables. Our goal for the end of the semester is to have a semi-completed build or at least one table built and put into operation. Once the stones that we ordered arrive, we will also begin installing them as imagined in our bird's eye view of the garden design.



Robotics Advising

The Easton Area High School Robo Rovers are a group of extremely capable and dedicated students who build a new robot every year to compete in the FIRST Robotics Competition. The EWB Robotics Advising Group meets with the students once per week at the high school, where we help with anything they need, from writing sponsor-outreach letters to helping them program an autonomous PID-controlled auto-balancing routine. Our biggest challenge is that we are not able to be there when they need us most--when they are designing the robot during our winter break. We hope to find a way to be more involved early on.

PROJECT UPDATES

Pocket Skate Parks

Our goal for the Pocket Skate Park team is to create harmonious, mixed-use/dual-purpose spaces. In August our team attended West Ward's National Night Out, which is an annual block party hosted by the West Ward Community Initiative, full of field games, activities, music, community tents, and a cookout. We have come up with many draft designs of skate structures including multi-pieced designs that puzzle together. Our team plans to continue to collaborate with Push Ahead, a skateboarding program in Lehigh Valley, to implement our skateable designs into both permanent locations, such as the Karl Stirner Arts Trail, and temporary locations using our portable designs (as seen to the right)



NEW PROJECT

Gracedale Nursing Home Dementia Board

The Dementia Board Project is a project for Gracedale Nursing Home. Our objective is to design and fabricate four different dementia boards that will be used by patients at their facility. So far, our group has been able to visit the nursing home in person and create 3D models for what ought to be the dementia boards we're delivering. Currently, the project members are finalizing the design and real soon they will begin the material list, budget, and service documents.

Challenges that have risen over the course of the project's lifespan have been sparse, but the biggest one of all has been enlisting the help of an entirely new group with little to no experience working on this sort of project. Despite that, they have come a long way in a relatively short amount of time and I'm very proud of the team. By the end of the semester, the goal is to have everything set for building the board and delivering the project by the end of the first month that EWB starts next semester. This goal is certainly doable as long as I keep the team interested in this project.



LETTER FROM THE PRESIDENT

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I would also like to thank the rest of the executive board during my presidency for supporting me throughout the year: Charlie Foster (Vice President), Jed Alterman (Treasurer), Michael Aronson (Outreach Chair), Fayth Wischart (Outreach Chair), Lexi Gould (Communications Chair), and Ian Duffy (Public Relations Chair). Jed, Michael, Fayth, and Lexi had also been on the executive board since their freshman year and were instrumental in the club's revitalization and growth during the height of the COVID-19 pandemic, and their service to the club should not be overlooked. Having their insight and perspective at my disposal throughout my presidency has been an invaluable resource as I navigated the new role.

Being that I was halfway through my senior year by the time my first term concluded, I did not run for president again, but I am honored to pass the torch on to Charlie Foster. Charlie previously served as the vice president during my presidency, so he has extensive knowledge of how the club operates and has contributed greatly to the positive direction of the club over the past year. I, therefore, have full confidence that he will step into this role seamlessly and continue to lead the club to new heights.

Throughout the year, I made it my goal to meet the previous board's level of dedication and consistency. I lead one executive board meeting and one advisor meeting (along with the vice president) weekly, as well as one general body meeting weekly during the Spring 2022 semester when our vice president, Charlie, was abroad. Project leaders were also integral in propelling teams' progress during general body meetings.

In addition to all of our club's members, our faculty advisors play a crucial role in defining the direction of the club. As the President and Vice



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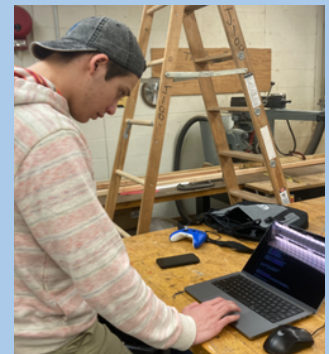
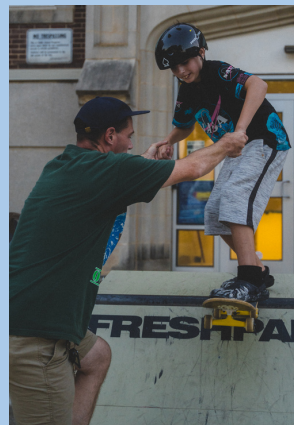
President provides the advisor team with updates on the club's progress, they offer ways in which we can optimize the way we approach problems and utilize our resources, some of which we do not fully realize is at our disposal. This year saw the departure of Professor Arthur Kney, who left on sabbatical but was instrumental both in supporting the club through its rocky rebirth in the midst of COVID and in the insight he provided to the club's presidents and vice presidents. We would therefore like to thank him profoundly for his service and his contributions to the club.

With Professor Kney's departure, we were very lucky to welcome Professor Mary Roth (civil engineering) to the faculty advisory board. Professor Roth wasted no time in adjusting to the role and consistently offered valuable advice. Professor Toby Rossmann has continued to be a reliable source of alternative methods of approaching problems in his role as our returning faculty advisor. We would also like to thank Sandy Snead, our professional mentor, for her insight and for connecting us with resources at the Lehigh Valley professional chapter of Engineers Without Borders, of which she is a member.

One of our club's members and project leaders, Eddie Cheney, was also honored at the 2022 Aaron O. Hoff Awards. Eddie received the Emerging Leader Award, which recognizes students who demonstrate considerable leadership potential and who take initiative to effect positive change in the community. Eddie has certainly embodied the criteria for this award through his leadership of our skatepark project, which is working to build portable, "pop-up" skatepark features and implement them throughout Easton for all members of the community to enjoy. We would like to congratulate Eddie on this award and encourage him to keep up the good work.

I am very proud to have been involved with Engineers Without Borders at Lafayette. My experience has allowed me to grow as a leader, communicator, and person. I have learned a lot from both the challenges I have had to overcome and the people who volunteered to be a part of the club and who have supported me along the way. With the dedicated members that the club has, I know the future of Engineers Without Borders is in good hands, and I am excited to see where it goes and the tangible impact it will have on the community.

Sincerely,
James Galbraith
Class of 2023
President, 2022



ADVISOR ACKNOWLEDGEMENT

WRITTEN BY CHARLIE FOSTER

To support this year of growth we relied heavily upon our club faculty advisors to give us guidance and suggestions in club management. This past year we had two amazing advisors, Professor Mary Roth from the Civil Engineering department and Professor Toby Rossmann from the Mechanical Engineering department. These two took over the role from Professor Kney while he was on sabbatical but we are hoping to add him back in once he is back on campus. But in Kney's absence, both Professor Roth and Professor Rossmann gave us the support needed for a club with 50 members and 6 project teams.

Both Professor Roth and Rossmann are heavily involved in on-campus activities outside of EWB which makes them extremely connected and knowledgeable about campus events. Professor Roth was the faculty member who headed the 2022 Bonn Germany Study Abroad group as well as the acting department head of the Civil Engineering division. Professor Rossmann is the head of the Dyer Centre at Lafayette which is a space designed for entrepreneurship in our Rockwell Integrated Science Centre, Professor Rossmann also heads one of the largest mechanical engineering labs on campus.

Our faculty advisors are one of if not the most important resources we have for the club as both the President and Vice-President meet with them on a weekly basis. There they go over how each project is moving forward and see if the advisors have any suggestions for contacts as well as resources to help the project leader. In the weekly meetings, the club standing is also discussed as the advisors have been essential in bringing new project ideas and connections forward for the executive board.

Our faculty advisors are two of the most important people within our organization and allow us to run one of the most successful engineering clubs on campus. Without their support, we would be dead in our tracks.



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