

Engineers Without Borders

At the Rose-Hulman Institute of Technology



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What is Engineers Without Borders?

Engineers Without Borders (EWB) is an international student-driven organization that engineers sustainable solutions to health and infrastructure problems in third-world



countries. We envision a world in which the communities we serve have the capacity and knowledge to meet their basic human needs. We make this happen by collaborating with local community partners to design and implement student-designed engineering projects. Lack of access to safe drinking water and reliable sanitation affects half of the world population. More disturbingly, unsafe drinking water and lack of hygiene causes the deaths of 1.6 million children under the age of five each year. Our work is making a direct impact on these sad statistics.



In this Issue

Welcome to the Spring 2013 issue of the Rose-Hulman EWB newsletter! We have been hard at work since our last issue. We completed our final implementation trip to the Dominican Republic last winter, successfully implementing three additional latrines in Batey Santa Rosa (see "Our Second Latrine Implementation" on page 3)! Our members also found opportunities to serve a community closer to home; we have partnered with Servants at Work, a terrific organization in Terre Haute that builds wheelchair ramps for individuals with disabilities (see "Helping the Local Community" on page 3).

We also have big news for our future work overseas.—we have been approved to begin work on a five-year project in Ghana, Africa! This is the most ambitious project we have undertaken as a club and we are excited for the challenge (see "Serving A New Community: Ghana, Africa", page 2).

We can't do it without your help though. Ghana is the hardest to access of the communities we serve; flights alone cost over a thousand dollars per person. 75% of our funds come from private donors—we rely on generous individuals who believe that engineering has the potential to make the world a better place. Please see "Donating to EWB" on page 4, or visit our website at <http://www.rose-hulman.edu/ewb> if you would like to help make a difference.

The EWB-RHIT Team

President Ryan Oliver

Junior Electrical Engineering Major
from St. Paul, Minnesota

Co-President Marcel Snijder van Wissenkerke

Junior Mechanical Engineer
from Claremont, California

Communications Manager Nate Moore

Junior Computer Science Major
from Scottsdale, Arizona

Engineering Manager Ryann-Rebecca Montgomery

Junior Civil Engineer
from Lafayette, Louisiana

Marketing Manager Jung Fang

Sophomore Chemical Engineer
from Jinan, China

Treasurer Sanders Park

Freshman Civil Engineer
from Alpharetta, Georgia

Serving A New Community: Ghana, Africa

Having finished our program in the Dominican Republic (which included the construction of a septic system and retrofitting an existing building with a hurricane proof roof to increase the quality and quantity of care provided by a medical clinic, as well as constructing latrines in a disease-ridden community nearby), our next program, starting this summer, will be in a brand new community. We will be returning to Ghana, this time to the community of Gomoa Gyaman, about 50 miles from our previous program in Obodan where we constructed a brooder house and a community center. Everyone is very excited about the prospects of this collaboration and we can't wait to see what working together over the next 5 years will lead to!



The Gomoa Gyaman community has about 5,000 indigenous citizens and over 100,000 in the surrounding region. The community is primarily agrarian and has no major public infrastructure except for a school, church, and public market square. They lack key infrastructure that will help them realize their mission to provide opportunities for development for the community members. The elders, in conjunction with the traditional leaders and Gomoa Gyaman Youth Associ-

ation, have concluded that four public latrines strategically located throughout the community will curb the health and environmental hazards of improper disposal of human waste.



Sanitation is critical to the welfare of this community and the provision of compost latrines will go a long way to improve the health of the community as a whole as well as provide fertilizer for their crops. A healthy community will lead to more productive citizens and improve the wealth of all. Other possible future projects with this community include a solar-powered library, a senior secondary school, and a health clinic which would further augment the health and education of community members.

While this is a large undertaking, with a bigger scope than all of our previous projects, this collaboration will lead to a great experience for both parties. In order for this to be successful, we need your support. Traveling to Ghana costs roughly \$1,600 per person, and in order to maximize the number of students who can benefit from this great opportunity to travel and work with people from a very different culture than their own, extra fundraising is necessary. Our preliminary budget estimates that the upcoming assessment trip will cost roughly \$13,900, allowing 6 students and our professional engineering mentor to travel to the community to learn about the community and their greatest needs, as well as to collect the necessary technical data relating to the design of the compost latrines.

Our Second Latrine Implementation



Our second implementation trip to Batey Santa Rosa in the Dominican Republic took place at the end of February, 2013. Our project's goal in Batey Santa Rosa is to build twelve latrines for the community, which will help limit the spread of fecal-born parasites and disease.

During our first implementation trip we constructed three latrines and over the next six months the community successfully built three latrines on their own, using the skills and knowledge that we taught them. The second implementation project was a one week trip where six students and two mentors inspected the latrines that they had built and then constructed three additional latrines; this brings the total number up to nine latrines, three shy of the project's goal.

Next year we will return to inspect the final three latrines that the community constructs and bring the project to a close as we begin the process of transitioning to our new project in Ghana.

Helping the Local Community

For the first time in Rose-Hulman EWB history, the student members of EWB volunteered to be a part of numerous wheelchair ramp builds right here in Terre Haute earlier this academic year. The EWB students worked through the Servants at Work (SAWs) group that raises funds through various churches in Indianapolis.

The builds took place at the residency of the gracious ramp recipients and began early the various Saturday mornings and continued into the mid-afternoon. Materials for the ramps and ramp blueprints were provided by SAWs but the construction labor was supplied by our caring and enthusiastic EWB students.

The ramp builds were a great opportunity for our members to help people with mobility impairments in the Terre Haute community and to get to know fellow aspiring engineers. We plan on expanding our partnership with SAWs this spring and into future academic years.



Student Spotlight: Sanders Park

Q: How will your experience working with a different culture affect you as an engineer?



A: After constructing latrines in a radically different culture this past February in the Dominican Republic, I took on new light as to what it truly means to be a Rose-Hulman engineer. I realized that my engineering skills can make a big difference in the world and that the work I put in as an engineer has real meaning to those it affects. I have taken my experience working with a different culture in a way that I will never again underestimate the impact that I can make on a community by utilizing my engineering skills. There is literally a whole world of opportunity for me to make a difference. Traveling abroad and using my engineering skills to make the world a better place is a passion of mine that was furthered by my involvement in EWB and my most recent trip to the Dominican Republic and I plan on continuing to make an impact in the future.

EWB-RHIT Mentors

Technical Mentor Wil Painter

Professional Civil Engineer
from EWB-Indianapolis

Technical Mentor Mike Cline

Professional Civil Engineer
from EWB-Indianapolis

Cultural Mentor & Translator John Gardner

Associate Spanish Professor
from Rose-Hulman

Faculty Mentor John Aidoo

Assistant Civil Engineering Professor
from Rose-Hulman

Fundraising

Fundraising is vital to our ability to continue using our Rose-Hulman education to impact developing communities worldwide. The cost of travel and construction materials is extremely high, but both are necessary for our chapter.

Through school organizations (such as the Student Government Association and the Humanities and Social Science Department) we are able to raise some funds for our projects.

But, this only covers a fraction of the total amount needed to complete our projects—especially for international air travel. We rely on private donors like you to support our projects and make a difference in third-world communities.

Donating to EWB

Contributions can be made to “Rose-Hulman Institute of Technology”, directed to “Engineers Without Borders” in the memo.

For more information about donating, contact Ryan Oliver at: oliverr@rose-hulman.edu.

Contact Us

Please contact us at oliverr@rose-hulman.edu if you have any questions or would like to become more involved.

More information can also be found on our website at:

www.rose-hulman.edu/ewb

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Benefits to Students

As part of EWB, Rose students develop an awareness of global conditions along with many transferrable skills that will help them succeed. Students learn to communicate and collaborate effectively both with other students and community members from around the world.

Working on a range of projects, students develop hands-on and critical thinking skills solving real problems with a lasting impact. The Rose-Hulman chapter of EWB is broken up into three project teams – Marketing, Communications, and Engineering. These teams enable students to experience different aspects of each of our collaborative projects, from fundraising and advertising to project design and implementation. Members learn to approach projects confidently and systematically, and gain responsibility as they contribute more to each project. Participating in EWB opens up leadership opportunities to students in an environment that values professionalism, service, and accountability.

Furthermore, EWB offers students the ability to travel to foreign countries. If selected for a travel team, students gain global experience implementing our chapter's designs. The communities in which we work offer students exposure to unfamiliar cultures, which gives them a more global perspective. Our organization drives students to use their engineering judgment and solve unique problems, giving them a competitive edge in future endeavors. Companies recognize that students in EWB have unique experiences and skill sets, leading them to specifically recruit our members.



Fundraising Goals

For our upcoming 2013 Assessment Trip, the EWB-RHIT team anticipates a cost of \$13,900, which includes airfare (\$11,200), food and lodging (\$1,200), and ground travel and logistics (\$1,500). We receive funding through grants, company donations, and fundraisers, though the majority of our funds come from private donors.

We depend heavily on the generous individuals like yourself who believe in our work and our cause. If you are interested in helping our club, please see “Donating to EWB” to the left for instructions on how to donate to our chapter, or visit <http://www.rose-hulman.edu/ewb/donate.php> to donate online.

