Trio’s Upward Bound Math/Science (UBMS) at the University of Delaware strives to empower low income and first generation students providing them with the necessary tools for academic and professional success. UBMS helps foster a supporting and tight-knit community geared towards networking and personal development. Within the program, students are able to explore new experiences, with opportunities to work in research laboratories, present at a research symposium and tour various college facilities.

Students take science and math courses based on their academic level. Possible courses include Chemistry, Physics, Anatomy, Biology, and Mathematics ranging from Geometry to Calculus. In addition, students take an English class that corresponds with their grade level and engage in a hands-on STEM course with practice in Computer Science and Engineering.
What Do You Think?

We asked some of the students questions about daily activities and their overall opinions on the program. These are their answers!

What was the most interesting thing you learned in the program?

Zakera: Calculus!

Everlove: Chemistry and electron configuration.

Mia G.: Everything about anatomy.

Jordan: How to use PowerPoint correctly

How has UBMS impacted your potential career choice?

Josh: It peaked my interest in computer science.

Mia H.: The events give us more insight on what we’d want to

Ahlyssa: It introduced me to interesting unique career ideas!

Doris: My math teacher made me want to be a mathematician!

What was your favorite memory from the summer?

Diamond: Our conversations on the walk to McKinley

DaVon: Zip-lining!

Isaiah P.: The tour of Howard

Everlove: Presenting the posters at the poster presentation
Keeping Busy!

Throughout the program, students were exposed to the STEM fields through labs and academic trips. Here is what the students thought of these experiences in their own words.

**STEM Lab**

STEM lab was an activity that explored the engineering aspect of STEM. Taking place in Spencer lab, it taught us what would take place as an engineering major. The lab was 9 days of drawing, painting, computer work, and designing in order to complete our final project. The first step in this process was to learn the basics of engineering, the second step was to learn the design process. The design process consists of Defining, Conceptualizing, Designing, and Testing our project.

Our “Scope Statement” (the purpose of our project) was: make a moderately difficult 3D puzzle for improving spatial skills. First we each designed our own puzzle cube with the given constraints; it must have the depth, height, and width of 3 wooden cubes, have 5 puzzle pieces, and to form the overall shape of a cube. Then we used an unbiased decision making matrix to decide whose puzzle fit the criteria best. After this we moved our base of operations from the drawing board to the computer to virtually design our cubes. We were taught how to use a computer software called Inventor. With this we learned how to sketch the parts, and use the tools available to make our 3D puzzle pieces. We also learned how to make an official part drawing, and how to turn everything we learned and made in STEM lab into our final project. We also had a day where we all presented our projects and explained everything we did to judges and visitors. This took STEM lab a step above any engineering course you might take in high school, the process of having to present and understand the material as an individual and as a whole.

We also participated in a few other activities during the STEM lab. We went on a tour to different factions of the mechanical engineering department. The tour was split in two, robotics, and the machine shop. Robotics consisted of learning about the different kinds of core engineering principles that go into robotics engineering as well as the maths and sciences. Robotics utilizes mechanical, and digital engineering while specifically applying computer science, and coding algebra. We saw how robotics can be used to serve the security of people, help day-to-day life, save the earth from pollution, and innovate healthcare. In the machine shop we saw that it was used mainly as a tool for the other engineers in Spencer lab. The machine shop is an abundant resource for the engineering majors at UD and even hosts its very own race car club. Every year the race car club uses all the cheapest and useful materials at their disposal to build a functioning race car, and a majority of this happens through the machine shop. Both facets of the facility were interesting and showed engineering as very real, very possible track for the students of UBMS.

We all appreciated the help and guidance of Dr. Buckley, Ms. Larson, Marcos, Dani, and Erin. STEM lab was vital in opening many eyes to the vast wonder that is engineering.

Written by Alexis Snyder
The Movie Tavern

The movie tavern served food and film in a fantastic fashion. The UBMS group went to both see Wonder Woman and eat dinner. While the food was good, the movie was even better. The outing succeeded in keeping us all fed and happy. Personally, I feel the movie was phenomenal, but it seemed to get mixed reviews from UBMS. Some thought it was phenomenal, some thought it was dead in the water, and others couldn’t have cared less. Even though there were mixed feelings about the film portion of the movie tavern, the food received few complaints. The fact that you could eat a meal and watch a movie without having to pull a juggling act was highly appreciated. The movie tavern offered comfortable seating, plenty of room, and wonderful service. And as rising senior of UBMS, Ahlyssa, stated “It was lit”.

Written by: Alexis Snyder

Chemistry Lab

Students over the course of the past month have gotten the opportunity to work in a few of the labs around campus, conducting a variety of experiments and getting hands on experience. Those in Chemistry, Biology, and other science-based classes were able to learn more about those respective fields by visiting the facilities which house a plethora of equipment and testing areas, making it a great resource academically. Students were educated, prior to participating, on proper lab procedures which are crucial to staying safe and maintaining the calm and calculated atmosphere. Cleaning up messes, properly disposing of contaminated materials, and learning how to handle volatile substances with care were just a few of the topics covered.

Afterwards, students were given access to the variety of tools housed in the laboratories in order to perform tests and gain useful knowledge in a fun and engaging way. It is needless to say that in order to truly understand a subject, one needs to be in contact with the topic and explore it in a thorough yet contented manner. This is exactly why, through UBMS, these upcoming engineers, scientists, and mathematicians were given admittance to institutions with the necessary supplies to expand their comprehension and proficiency.

Written by: Isaiah Humphrey
Thank you Eri and Maryn for helping us with work.
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Thank you Maggie for caring about us, and always giving out compliments.
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Good Luck, Seniors!

Soon, the rising seniors in our program will be freshman again – this time, in college! Here are our seniors and what subject they want to pursue in college!

Doris: Education
Roland: Biology
Ahlyssa: Nursing
Julianna: Art History

Destini: Early Child Care
DaVon: Psychology
Brittney: Pre-Med
Alex: Veterinary Sciences

Mia: Foreign Language
Zakera: Physical Therapy
Ciara: Nursing
Brianna: Neuroscience

We wish you all the best in your future endeavors!
Dear UBMS Senior Class of 2017,

What a wild ride this summer has been. First and foremost, thank you. This has been an amazing experience for me as your Resident Director. Not because the job was easy, and definitely not because I needed the money. This summer was an amazing experience because I got to work with you all.

It's bittersweet to acknowledge the end of the program, because for our fourteen rising seniors, it means saying goodbye. Some of you have been with us for four years, for some this is your first, but no matter how long you have been a part of the Upward Bound Math & Science family, I hope you know you'll always have support here.

Senior year will be difficult, and college will be more challenging still. Never give up. I have only the utmost faith for all of you. After spending these last couple of weeks with you, I know nothing can stop you when you put your mind to something.

Good luck going forward and upward.

Sincerely,
Harry