

UNIVERSITY OF CENTRAL FLORIDA
Camp Connect 2016, Post-Activity Report
Wednesday, June 15, 2016 & Monday, June 27, 2016

Camp Connect Spotlight

On Wednesday, June 15, Transportation Engineering and CATSS were represented in the Camp Connect program here at UCF. The students were welcomed by Dr. Ricardo Zaurin, who shared an overview of the diversity of disciplines within the Department of Civil, Environmental and Construction Engineering (CECE). Each type of engineering was explained using real-world examples of where its role fits in the industry. The students then embarked on an experience where the students participated in multiple activities revolving around the selected CECE disciplines.



Camp Connect currently is structured as a multi-year experience that is a summer engineering exploration program with differing programs for students who return in subsequent summers. The successful completion of Camp Connect provides the returning alumni the opportunity to be invited back in following years. Additional programs are increasingly more in-depth with experiences that prepare the students for the challenges and expectations of college and the Science, Technology, Engineering and Mathematics (STEM) opportunities that will follow. The students are engaged in projects, working with professional engineers, and are taken on local lab tours. Targeted for students from underrepresented communities, the program is facilitated each summer by the College of Engineering and Computer Science (CECS) Office of Diversity. Each program is a week-long experience takes 8th through 10th graders into the realm of the engineer by exposing them to the many different disciplines found within CECS.

The goal of the camp is to fuel kids to become more interested and realize their desire to become involved in the engineering field. Students participated in presentations, activities, lab tours and were given insight into what the life of a college student and an engineering professional is like, beyond the classroom. The program provided a method of exploration and preparation advice for the start of their college career by networking with students and faculty here at UCF in addition to presenting their experiences to their peers.

Transportation Engineering Spotlight

Wednesday, June 15, 2016

This summer, the UCF Transportation Systems Engineering program was represented at Camp Connect. The activities were scheduled as the part of the camp that covered the various disciplines within the Department of Construction, Civil and Environmental Engineering. Students



had the opportunity to become involved with scenarios that role-played the process of planning, funding and constructing a transportation-related project. Called *The Reservation Road Planner Game*, the students were organized into teams that were to compete to go the furthest in the scenarios. In this board game, each student had their own project that they were responsible for completing, with the goal of completing their individual project the quickest and with the most amount of money left over.

The students were presented with the basics of Transportation Engineering, what transportation engineers do, what the transportation systems are and how they affect the entire community. The floor was open to questions throughout and after the introduction. After the brief presentation, the students split into groups to play *The Reservation Road Planner*.

The game was made possible through the generous contributions of Michelle Noch, who was instrumental in ensuring the Federal Highway Administration would be able to provide the game to Camp Connect. Facilitated by associate, Alex Navarro; Scott Nager, Yasmin Farias Chaves Quirino and Mohamed El-Agroudy were proud to participate in the program by improving the process, preparing and facilitating game play for each of the groups that participated throughout the day. Improvements to the game play, point system and trivia questions were enhanced. The enriched program provided a heightened spirit of competition for the students.

The activity provided competition and challenges to campers while giving them an understanding of what a transportation planner is challenged with on a regular basis. It is with interactive experiences



such as this one that students are entertained and educated. The lessons that are learned give



students a better understanding of how the transportation planning process works. Students chose a project to begin with and took it through the planning process. The five stages include development, project inventory inclusion, funding, preconstruction and construction. To represent the fluctuations of a project, players were subjected to fees, abrupt changes in the project guidelines and bankruptcy. The game got the students involved with other players on their team as they rallied to take their projects to completion. They were exposed to and engaged in the transportation engineering environment, many became interested knowing more about

the field. We are pleased to have hosted these students and give them an opportunity to take a look into the engineering world.

Bridge Building Spotlight

Monday, June 27, 2016

Camp Connect students were able to partake in an activity that required constructing bridges and testing them in the structures lab. The bridges were built out of popsicle sticks; small, large and notched along with glue. The guidance and instructions were provided by Dr. Ricardo Zaurin and our CECE Lab Manager, Juan Cruz was on hand to provide assistance to the students. Students Scott Nager, Yasmin Farias Chaves Quirino, Luisa Tavares Muzzi de Sousa and Rodrigo Silva dos Santos along with associate Alex Navarro mentored the students through the bridge building process. The teams were challenged to create a truss bridge with the ability to have an open deck for a specified block to fit through.



Students were presented the concepts and basic rules for the bridge building competition.

They were not limited in materials, however, the winner would be judged on the overall strength of the bridge based on the ratio of the force applied on the bridge and the mass of the bridge. Overall this competition gave students the opportunity to understand that materials contribute to the bottom line and need to be minimized to provide an effective solution with a cost to benefit ratio that is in favor of the group building the bridge. The activity also enhanced their appreciation and understanding of how important engineers are in their everyday lives.



The bridges were ultimately tested in the structures lab with the load application machine, which measured the force applied and the deflection. In the Structures Lab, Haider Al-jelawi ran the machine and assisted in weighing the bridges for official competition. Although the winner of the competition had the third highest amount (102 lbf) of force applied the amount of materials used was significantly less than the other two bridges ahead of it with a ratio of 1.009 pounds of force per gram of material. The top bridge for force was 144 pounds of force.

The team was ecstatic to participate in a program that gives an insight into the fundamentals of what we accomplish. The goal was to inspire and spark a passion in these young adults for a career in Science, Technology, Engineering or Mathematics.