

University of Houston - ASME Student Section
4800 Calhoun Road
Mechanical Engineering Department
Houston, TX 77004

May 25, 2015

To whom it may concern at the DAG Review Committee,

Attached is the final report for the University of Houston's outreach engineering design competition, titled "Intro to Cougar Engineering". This report includes all necessary information requested by the DAG, as well as photos of the event. Our student chapter, department and the participants of the competition are grateful for the funding given to us through the DAG.

If there are any questions concerning the report, please contact our student contact, Christopher Ortega at cmortega@uh.edu, our section chair, or our faculty sponsor, Professor Li Sun at lsun4@uh.edu.

Sincerely,

Christopher M. Ortega
Committee Chair
"Intro to Cougar Engineering" Event
University of Houston – ASME Student Section

Attached:

University of Houston – DAG Report

Photos of "Intro to Cougar Engineering" Event

Report Summary:

Student Section: University of Houston – Mechanical Engineering

Section Chair: Anthony Carbone

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Mechanical Engineering Department
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Summary of DAG Project:

ASME DAG Funding: \$3,000

Total Funding Received (Including DAG Funds): \$9,000

Total Project Expenditures: \$8717.23

Partnering Organizations: ASME South Texas Section, ASME International Petroleum Institute, and The University of Houston Mechanical Engineering Department

Attendance: 135 total, 32 female, 108 minority (Asian, Hispanic, or African American) for each day of the event

Project Title: Intro to Cougar Engineering

Project Date: March 8th, 2015 and March 10th, 2015

ASME Regional Rep.: George Risky

Report of “Intro to Cougar Engineering Project”***Project Description:***

The University of Houston ASME student section organized and hosted a scholastic outreach event aimed at promoting STEM education and engineering principles with local high school students from Spring Independent School District. The Event titled “Intro to Cougar Engineering” was a two day event that included: a team based design competition, tours of the University of Houston Campus, and engineering career exposition, and speakers from the local Engineering professional which included Bonnie Dunbar (former NASA Astronaut). The 1st day of the event

involved breaking the 135 students, from Spring ISD, into teams that were led by a UH engineering student that acted as a project manager. Students were given a budget of tickets used to purchase building materials and supplies used to build a vehicle capable of traveling around a track while carrying marbles. Group's vehicles were scored based off: the time their vehicle took to travel around the track, the number of marbles it could carry, and how many tickets they spent on building their vehicle. The groups with the three highest scores received medals for winning the competition. The 2nd day of the event began with the 135 students, from Spring ISD, taking a tour of the University of Houston campus which was led by the University of Houston ambassadors. Students then participated in a career exposition, where several booths were hosted by: UH student engineering organizations, UH Senior Design project groups, local engineering industry leaders, and the ASME South Texas Section. Students were allowed to visit each booth and learn about the requirements to attain an engineering degree, the different opportunities for engineers, and the importance of a STEM education. The day was concluded with guest speaker Bonnie Dunbar, former NASA astronaut and current UH professor.

Project Goal/Objective and How Achieved:

The goal of the project was to host a two-day engineering outreach event for local high school students from Spring Independent School District. The outreach event was to involve a day devoted toward a design competition, and a day toward engineering exposure and student interaction. The program aimed at promoting engineering careers, engineering principles, and STEM education.

This goal was achieved by having the students participate in a challenging engineering competition with design criteria relatable to real world engineering projects. The goals were also achieved by having the students directly communicate with local engineering professionals and UH engineering students, to gain insight on the experiences and challenges that engineering and STEM professionals face to attain their career.

Evaluation of Program's Success:

The program was deemed successful from feedback from: The University of Houston's Mechanical Engineering Department, our ASME Advisor, and the ASME South Texas Section. The students who participated in the event greatly enjoyed the trip to the UH campus, and eagerly participated in the two-day event. The design competition was also deemed successful by the fact that each group successfully built a vehicle capable of competing in the design competition. The program was also deemed a success by the involvement from sources outside of the University of Houston, such as local engineering professionals from the UH engineering alumni association, and ASME South Texas Section

Conclusion

In conclusion, the University of Houston's Mechanical Engineering ASME student section was successful in holding the "Intro to Cougar Engineering" outreach event for the second year in a row. Our student section invited 135 local high school students to our two-day event. This event exposed the students to engineering principles, local prominent engineering industry experts, UH engineering students, and promoted STEM education. It was only thanks to the funds from our sources, including the ASME DAG that allowed such an event to take place.

Photographs from “Intro to Cougar Engineering” Event:

All photographs property of the University of Houston’s ASME Chapter. Permission is given for ASME to use the images to post on their website or in print.



Students working in groups with UH engineering student volunteers



Students working in groups with UH engineering student volunteers



Students practicing their vehicle design on the tracks



Overview of students competing in the design competition



Students attending lectures from local industry professionals



Winning group from the design competition