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The 5th National College Student Engineering Robot Competition

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Feature SCUPI Derby
A New Approach to Teach “Introduction to Mechanical Design” / Feng C. Lai + Albert Evans

The sophomore class of “Introduction to Mechanical Design” in SCUPI is rather unique in the sense that it pairs the traditional mechanical design class with an English writing class that is centered on the technical writing. To the best of my knowledge, this has never been experimented in other institutes.

To provide the best learning experience for our students, the instructors for the class themselves have to work closely as a team. I was in charge of the mechanical design part while Mr. Al Evans was responsible for the English writing part. We came up with the idea of SCUPI Derby which is modeled after the well-known US Boy Scouts’ Pinewood Derby as the final project for students. What is different from the Pinewood Derby is that the model car or robot would be made from 3D printing instead of elaborating on a pinewood block.

To prepare students for this challenging task, SolidWorks has been used as a main design tool. Not only the concept of concurrent engineering was introduced in the early stage of the class, but also the technology about rapid prototyping has been emphasized throughout the semester. Basic concepts of fluid mechanics and vehicle dynamics were also added in the regular classroom discussion of mechanical design.

The design criteria and competition rules of the SCUPI Derby were provided to students near the mid-term. The students were divided into 24 groups with 4 students in each group. The students’ performance in this final project was evaluated in three parts: design appeal, project presentation, and actual race. While the design appeal was peer-evaluated, the race was evaluated by the distance the car travelled from the inclined track as well as the time it took to reach the final destination.

On the day of the SCUPI Derby, students were excited and energized. They witnessed how a well-thought design of their product could turn into an excellent performance in life. I believe the experience that our students gained from this class will be invaluable for their future career. It gives them the first taste of the design realization as well as the true meaning of engineering.

By Feng C. Lai, ME Professor

On top of all of these challenges, the course also required a high degree of cooperation with Feng Lai, the other instructor, who was teaching the Mechanical Design course. Good planning was essential, and when problems arose, good negotiation and cooperation helped us to overcome the obstacles.

At the end of the course, all of the students participate in a conference, presenting the research or findings which they did during the semester. This was also the first time I have ever organized such an event, and this added an entirely different dimension to my normal work of teaching.

By Albert Evans, English Instructor

The writing component of the Mechanical Design course was a challenging course to teach and learn. Students did not meet with the instructor in class every week. So, success in the course required a lot of independence and autonomy. The style of writing was technical. This type of writing is very specific, and requires a high degree of logic and clarity. The author’s ideas should be very clear. In addition, technical writing also makes frequent use of charts and figures. This is not like standard English composition, which ignores experiments and graphic elements and large amounts of data.

Students worked in Writing Groups to enhance both their writing skills and leadership abilities. These groups of 4 to 7 students met for one hour every week. The groups were managed by the students themselves, and a Teaching Assistant or an English writing instructor monitored the group. A frequent activity to end a Writing Group session was rating the performance of the leader, and giving praise or suggestions for improvement. Leaders for the next week were questioned about how they would prepare for the task. In brief, the Writing Groups taught the students not only writing skills, but developed participation and group management skills.

Assignments were distributed electronically via QQ, the social media platform. These covered a variety of writing skills, including quotes, paraphrases, the use of sources in papers, how to use figures, charts, and graphs, and how to write abstracts. They practiced by working on the abstract they would later use in their papers.
TEACHING WORKSHOP

About Teaching Workshop
Theme: How to Engineer Engineering Education
Presenter: Michael Prince

"Professor of Bucknell University; Leading authority of active learning in engineering education; Key instructor for the NETI (National Effectiveness Teaching Institute).

Brief: Focused on (mis)conceptions of active learning, active learning effectiveness, and active learning teaching methods.

Active Learning: Not One Tool, But A Tool Box

"...However we should keep in mind that the whole point is to gain students’ engagement in the learning process, but not that of the instructors’. Floating classroom in a fancy way is not the only option... So for different forms of active learning, bookends might be a good one to start with. We may also explore other forms which we feel comfortable to use. I’m sure you already have yours. My experience and observation have convinced me that we are doing great. We will just do better.”

— Xingfeng Qian, Assistant Professor

2016 SCUPI Matriculation Ceremony

On September 18, 2016, Matriculation Ceremony for class of 2016 was held at International Conference Hall, third floor, Sichuan University – The Hong Kong Polytechnic University, Institute for Disaster Management and Reconstruction (IDMR).

Representatives from Pitt, SCU other departments and schools, all faculty, staff, and sophomore students from SCUPI, and over 100 students’ parents attended the ceremony to celebrate the second class of 160 students’ beginning of their academic journey at the SCUPI.

On October 14, 2016, Sichuan University - Pittsburgh Institute (SCUPI) warmly welcomed guests and student representatives from Union College, Chongqing University - University of Cincinnati, and SWJUT - Leeds Joint School.

They were invited to attend the Student International Forum (SIF) themed on sharing career paths together with SCUPI student representatives.

On October 23, 2016, The Global Student Leadership Forum (GSLF) was successfully held by Glasgow College, UESTC, 6 freshmen as SCUPI delegation presented at the GSLF.

National Scholarship

Nan Jiang
Yiyang Wu
Yukun Liu

SCU Top Scholarships

SCUP1 Students Won SCU Comprehensive Scholarships. Please check SCUPI website for the list.

Upcoming Events

February
2/27 First School Day of 2017 Spring Semester

March
The SCUPI Treep

April
SCUPI Open Day

May
SCUPI Student Award Ceremony

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