



NEWS

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El Camino College Physics Team Succeeds in International Competition

Students win silver medal for their problem-solving skills

The El Camino College physics team recently won a silver medal in an international competition that tested students' knowledge, innovation and creativity.

Team members Huy Ho, Keith Inouye, and Kenta Morimoto participated in the University Physics Competition, an international contest for undergraduate students who work in teams to solve a physics problem over the course of 48 hours. The El Camino College team ranked eighth out of 73 on their problem, directly competing with many four-year colleges and universities such as Duke University, University of Pennsylvania, and Georgia Institute of Technology.

For this competition, students worked in teams of three at their home colleges and universities all over the world, analyzing a real-world scenario using the principles of physics, and then wrote a formal paper describing the work.

“The contest was a fun way to solve a difficult problem within a very limited time frame,” said Kenta, an electrical engineering student who plans to transfer to a university this fall.

This year, the ECC team addressed the problem, “Golfing around a Tree.” In this scenario, a poor shot has placed a golf ball so that a tree lies directly between the ball and the green. The students used physics principles to determine how to hit the golf ball so that it would curve around the tree and land on the green.

During the contest, teams used books, journals, computers, the Internet, programs that they wrote, and other “nonliving” resources, but they did not consult with any people outside of their team. ECC professor and team adviser John Coroneus prepared the students for the competition through mock questions and skill building, but as outlined in the contest rules, did not speak to them about this specific problem – they were entirely on their own.

“This was a great experience for me,” Coroneus said. “I had a chance to show students how to approach open-ended problems in science that are well beyond those typically found in the classroom setting. These are exactly the kind of approaches and problem solving skills that scientists and engineers use to tackle real-world issues.”

The El Camino College students addressed the problem by using a mathematical model and computer simulations to find various solutions – one of which put the golf ball on the green in just one shot!

Their paper detailed the many steps involved with solving the problem. Steps included: performing an experiment to find out how well a golf ball bounces; calculating the speed of rotation of the ball off of the golf club face; calculating the curvature of the ball's path due to the rotation (similar to how a baseball pitcher creates a curve ball depending on how he/she throws it); and calculating the path of the ball as it goes around the tree (or not) depending on how the golfer hits the ball. Finally, they generated all the graphs, figures, text, and references to present their findings in a rigorous paper.

Keith said the contest challenged them to think outside the box, using teamwork, research, and problem-solving skills.

Huy added, "This competition taught me how to become a good leader, and how to work in a real physics problem under time pressure without any help from instructors."

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