



The Patriot-News

TAKING FLIGHT

CV student engineers' wing design moves to national level

Wednesday, March 18, 2009

BY ALLISON DOUGHERTY

For The Patriot-News

They aren't frantic, yet. But the calendar tacked to the wall of the Cumberland Valley High School classroom in which they work is filled with things to get done.

"Time is our biggest enemy," said Kyle Gochenaur, 17.

Gochenaur is one of four student members of Cumberland Valley's Eagle One design team, which will go to Washington, D.C., this week to represent Pennsylvania in the United States Department of Energy's Real World Design Challenge, a national engineering competition for high school students.

"It's called Real World Design because it puts you in the real world," said team member Vladimir Grinevich, a senior at Cumberland Valley.

The team's challenge is to design a wing for a Cessna twin-engine airplane that has the least amount of drag.

Last month, their design for a fuel-efficient wing was selected as the Pennsylvania-wide winner, making them eligible for this month's national challenge.

The team, which also includes Cumberland Valley juniors Jeff Pope and Cody Ambrose, has been using sophisticated design and testing software and suggestions from mentoring scientists, physicists and engineers to design the wing.

Their coach, Cumberland Valley technical education teacher Michael Flowers, helped the team learn how to use the software. But after that, the students were on their own.

Taking into consideration things like thrust and lift -- words that take on strange and mysterious meanings in the team's world of aeronautics -- the students first selected wing prototypes, tested them, kept some, abandoned others, made adjustments and tested them again.

While their work has included a lot of math and a lot of brain energy, there is more than a little intuition involved in the process.

"If it looks right, it flies right," Gochenaur said.

According to Flowers, the students, all of whom are considering future careers in engineering or aeronautics, have learned a lot about teamwork.

"I'm proudest of how we've worked together. We set deadlines, and we actually met them," Pope said.

Competing against nine other teams, the students will present their final design on Saturday to a panel of industry professionals, academics and federal government representatives.

Three teams will then be selected to present their designs Saturday night at the National Air and Space Museum.

The winner will be announced later that night. The students are confident, but busy.

The deadline for submitting their design is midnight tonight, and the calendar on the wall has a task for every day's box.

But the boxes toward the end of the week contain a single, excited word: "LEAVE."

AT A GLANCE

- **WHAT:** Real World Design Challenge. Ten teams from across the nation will take part in the competition that is designed to find a viable solution to a real-world engineering problem.
- **WHERE:** National Air & Space Museum in Washington, D.C.
- **WHEN:** Saturday.
- **INFO:** Eagle One, a team of Cumberland Valley High School students comprised of Cody Ambrose, Jeff Pope, Kyle Gochenaur and Vladimir Grinevich. This year's challenge focuses on a design problem in the aerospace industry.

©2009 Patriot-News

© 2009 PennLive.com All Rights Reserved.