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HIGH BAR

BY BRYANA FERN

Excellence is the goal for Cedarville students in every academic discipline. Whether it's creative nonfiction writers publishing in professional journals to earn the highest class grade or the nationally recognized Integrated Business Core requiring students to establish a fully operational business and generate profits to benefit local charities, students are called to aim high. Our School of Engineering and Computer Science is one more example of those high expectations saturating every major, from class projects to labs, competition teams, and senior design. That high bar is clearly established and our students consistently meet and exceed the standard.







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Solar Splash Championships

HANDS-ON EXPERIENCE

Cedarville engineering competition teams match up against the best and brightest from the U.S. and around the globe. Robert Chasnov, Senior Professor of Engineering and Dean of the School of Engineering and Computer Science, noted that the pattern of top winnings in international competitions against the best engineering programs in the world over the last 30 years “says much about who we are and how we provide an opportunity for our students to be at their best.”

Cedarville engineering students are pushing the boundaries of traditional technology and leading research and exploring the possibilities of future technology.

Traditional Technology

- Supermileage Team with Larry Zavodney, Senior Professor of Mechanical Engineering, which was named 2020 and 2021 champions of the Society of Automotive Engineering Supermileage competition, and winner of the prototype vehicle design award for the 2020 Shell Eco-Marathon Americas and winner of the technical innovation award at the 2021 Shell Eco-Marathon Americas
- Solar Boat with Tim Dewhurst, Senior Professor of Mechanical Engineering, which is a 12-time champion of Solar Splash: The World Championship of Solar Boating
- Grassroots Motorsports Challenge Team with Jay Kinsinger, Associate Professor of Mechanical and Biomedical Engineering, which placed second in 2021 against teams that included Georgia Tech
- Society of Automotive Engineers (SAE) Aero Design, which in its 2021 international contest in the Advanced class competed against teams from Georgia Tech, the University of Puerto Rico, Alexandria University (Egypt),

Universidad Nacional Autonoma de Mexico, Campus Ciudad de Mexico, Oklahoma University, and Michigan Tech University

Future Technology

- NASA Student Launch project with Tom Ward, Associate Professor of Mechanical Engineering, which will compete this April against rocket teams from Purdue, Notre Dame, The Ohio State University, the United States Naval Academy, and the United States Air Force Academy in the 2022 NASA Student Launch in Huntsville, Alabama. As part of their preparation they have held multiple subscale launches and will have filed around 750 pages of documentation to NASA
- Cyber Team with Seth Hamman, Associate Professor of Cyber Operations and Computer Science
- Automated Golf Cart with Danielle (Scarpone) Fredette '12, Assistant Professor of Electrical and Computer Engineering
- American Society for Engineering Education (ASEE) Robotics Team with Clint Kohl, Senior Professor of Computer Engineering

These projects prepare students with hands-on practice, demanding excellence, dedication, and plenty of sweat equity. Textbook explanations become real-world trial and error, where skill and expertise are developed and sharpened.

#1
in Supermileage
Competition
(2020 and 2021)

GOING THE EXTRA SUPERMILE

Brianna Ice '22, team leader for the Supermileage team, said the chance to apply all the theory from class is the most rewarding aspect of the work. “Supermileage has helped me to see how principles learned in the classroom apply to real life,” she noted.

Like all the engineering teams and projects, Supermileage demands a high level of accuracy and commitment. Ice must

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balance these demands along with the added responsibility of being team leader. “I also have to make sure I am delegating work and using the skills of my team members,”

she stressed. Indeed, the team contributions in these projects seems to be one of the most important factors of their excellence.

Part of what allows students to perform at this level is their coursework in fundamental theory itself — without proficiency in applied math and physics, students would be far less successful in hands-on work with teams and solo projects.

PREPARING FOR THE FUTURE

Cedarville students who pursue graduate degrees in engineering transition smoothly because of the depth and rigor of their undergraduate degree.

“I’m taking a course in graduate school that I thought would be an advanced version of the elective course I took at Cedarville,” one former student shared with Chasnov. “But I came to find out that we are using the same text and have been asked to solve the same homework problems that my Cedarville course required.” While this is only one of many alumni testimonies, it demonstrates the high level of excellence that faculty require of students.

CHRISTIAN MINDSET AND WORK ETHIC

Not only do Cedarville’s high standards prepare students for careers and graduate school through excellent work ethic and experience, but they also train students to balance academic rigors and job demands with a biblical worldview and Christlike empathy toward others. Cedarville is blessed with diverse and qualified faculty members who actively engage in students’ progress and professional ambitions, helping each of them visualize their career options.

“The consistent theme over these 30 years has been calling,” Chasnov explained. “Our students quickly realize that getting a degree in engineering or computer science is not simply checking the boxes for a set of courses to complete. They must go above and beyond the requirements that would get them that exact same degree at the public university in their home state.”

Like any other program within Christian higher education, engineering and computer science students and faculty members must discover how their identity as Christ-

followers impacts the pursuit of excellence in their fields and the rest of life.

Chasnov quoted Paul Dixon, former Cedarville President and current Chancellor, in saying that, as Christians, “Everything we do ought to have quality stamped all over it.” Engineering tasks in creating and shaping and inventing echo God’s own passion to make and create. And Cedarville engineering students, trained with academic excellence, are likewise challenged to live their personal, professional, and public lives with the same kind of excellence, to the glory of the original Creator.

Bryana Fern serves as Assistant Professor of English at Cedarville University. She earned her Ph.D. in English and creative writing from The University of Southern Mississippi.



Pictured L-R: Seniors Forrest Putnam, nose cone and simulations lead, and Chad Sanderson, NASA Launch Team leader, inspect the rocket prior to a practice launch in February.