

Bits & BYTES

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Freshmen Show off their Design Projects

SECS students in ME-101 and CE-101 participate in an integrated design project to test their knowledge and practices the skills they were taught during the semester.

ME 101 Project—Tennis Ball Launcher

ME 101 students completed a semester long project to design and build a device to launch a tennis ball automatically using only pressurized air. As part of the project, students also learned teaming and project management skills. For the students, it was the first time they had ever mathematically modeled a system with the intent of optimizing the thrower for accuracy and efficiency. The engineering design process guided their design effort to include mechanical advantage, minimize mass, and reduce the number of tube pairs to launch the ball. The students then used their optimized design to fabricate a thrower to work towards the projects' goals.



CE 101—Balsa Wood Bridge Project

CE 101 students had to work in groups of 3-4 students to design, analyze, and build a bridge out of balsa wood that was 24" long. The project required students to use project planning and truss analysis skills learned in class. It also gave them experience estimating quantities and managing a budget. Students gave a class presentation and submitted a professional report which included AutoCAD drawings as part of the project.



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Photo by Myriam Zilles on Unsplash



Associate Dean's Corner

Dear Members of the School of Engineering and Computer Science (SECS) Community,

This semester has been filled with remarkable achievements, from the ingenuity demonstrated in our freshman design projects to the projects and research work undertaken by our senior design teams. Our Civil Engineering Senior Design Team is tackling real-world challenges, such as their analysis and improvement proposals for the Lake Talahi Dam. The UE Aces Racing Team is making significant strides in the design and fabrication of a high-performance vehicle. Meanwhile, the Thermosiphon Team is conducting innovative research that will be presented at the National Conference for Undergraduate Research (NCUR). These projects showcase the technical skills, teamwork, and problem-solving abilities that define our students.

Our student organizations have also had a fantastic semester, with activities ranging from professional networking events to community engagement projects. Their efforts to foster leadership and collaboration among peers exemplify the spirit of SECS.

As we head into the holiday season, I encourage all members of our community to take time to rest and recharge. Whether by spending time with loved ones, exploring creative pursuits, or simply relaxing, this break is an opportunity to rejuvenate for the exciting times ahead.

Sincerely,

Suresh Immanuel, Ph.D., P.E.

Associate Dean and Professor

School of Engineering and Computer Science

Senior Design Teams

CE 495 SENIOR DESIGN TEAM

This year's Civil Engineering Senior Design team includes five CE Seniors: Nick Collins, Baylee Essert, Henry Hall, Aiden Krutchen, and Erika Phillips. The team is working on the Lake Talahi Dam.

Our project is analyzing the Lake Talahi Dam in Evansville. The Dam was labeled as a "significant hazard" by the Indiana DNR, and we are responsible for confirming this information and creating a solution for the Lake Talahi Home Owners Association. This semester, we have analyzed the geotechnical and hydraulic information for the dam and have found that the spillway could fail in the future. Going into next semester, we will continue our analysis and create a design for a new spillway to prevent failure.

UE ACES RACING TEAM

Ace's Racing is participating in FSAE Formula this year. This involves the designing and building of a high-performance vehicle that will then be tested and tuning for optimal performance. The fall semester of the school year is designated for design and 3D CAD modeling of the vehicle while the spring semester is the actual fabrication of the vehicle. The team has successfully designed the main subsections of the vehicle and has begun ordering material for fabrication which is set to start over Christmas break. The team is hopeful to have a running and driving vehicle by the first week of April.

THERMOSIPHON TEAM

Thermosiphon team, this year, is researching the effect of hot-leg height on system's efficiency while varying collector angle. Our proposed research includes Base Case, serving as a benchmark for reliability, and the Constant Hot Leg-Variable Angle (CHVA) tests, which examine system efficiency at fixed hot leg heights (0, 10.5, and 21 inches) under low and high-power settings. We have completed Base Case tests and are close to finishing the CHVA High Power tests at 0-inch hot-leg elevation. These findings will provide new insights into thermosiphon optimization, with plans to present our results at the National Conference for Undergraduate Research (N.C.U.R.)..



IMPORTANT DATES

December

6-12 Final Exams

13 Winter Intercession Begins

16 Last day to add a Winter Intercession course

21 Winter Break Begins (Offices closed)

January

2 Last Day to drop a Winter Intercession course with a "W"

6 Winter Break Ends

10 SOAR

11 Winter Intercession ends

13 Spring Classes begin

17 Last day to add or drop a course without a "W"

20 Martin Luther King, Jr. Day Celebration (no classes)

Purple Visit Day

Student Organizations

SECS

students are welcome to join any of the professional student organizations that relate to their major. Here at University of Evansville, SECS has established student organizations for ACM, ASHRAE, ASCE, ASME, IEEE, and SWE.



President: Jillian Tretter, class of 2027

Congratulations to the new officers!

- President:** Jillian Tretter (Sophomore)
- Vice President:** Astrid Miranda (Sophomore)
- Secretary:** Elizabeth Harpenau (Freshman)
- Treasurer:** Kayla Simon (Junior)
- Social Chair:** Hadlee Siebert (Freshman)
- Freshman Class Officer:** Beau
- Sophomore Class Officer:** Mitchell Thomas
- Junior Class Officer :** Kayla Simon (tentatively)
- Senior Class Officer:** Henry Hall

We are so excited to see what this team has in store for 2025!



President: Baylee Essert, Civil Engineering Class of 2025

This semester has largely been being SWE back to the UE campus. We had quite a few professional and fun events, such as having women in engineering positions join us for a discussion and a coloring night to destress before finals. We also were able to host a give-back night at a local ice cream bar, and plan to do more give backs in the future. Next semester we will continue to grow SWE and empower all the women in stem at UE..



President: Nate Bingham, Class of 2027

ASME is looking forward to a speaker from Toyota during our January meeting. Other fun events are planned farther ahead in the spring. We hope all students have safe travels home and a Merry Christmas!



ASHRAE student chapter is looking for more members. Any ME student interested in refrigeration , heating & Air Conditioning should reach out to the Faculty advisor, Dr. Lofton, for more information. *We will be tabling in January for new members.*



IEEE student chapter is looking for more members. Any Electrical Engineering, Computer Engineering, or Computer Science student is invited to participate. For more information, reach out to the Faculty advisor, Dr. Will. *We will be holding an interest meeting in January for new members.*



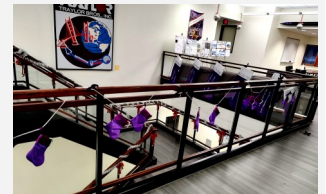
ACM Student chapter is looking for more members. Any Computer Engineering or Computer Science student is invited to participate. Students interested in ACM should reach out to the Faculty Advisor, Dr. Mabis, for more information. *We will be holding an interest meeting in January for new members.*

Happy Holidays 2024!

Thursday, November 21, students from the School of Engineering and Computer Science joined faculty and staff to help decorate the department for the holiday season. Those who volunteered enjoyed cookies and cocoa as a reward for their efforts. Everyone involved had fun adding their own creative touches to the decorations.

NEW Purple stockings were made for each program. The old red and green ones weren't retired, we used those to decorate the classrooms.

We want to wish everyone a Happy Holiday season!



SECS Seeking Advisory Council Members

The School of Engineering and Computer Science is seeking Advisory Council Members to assist in shaping the program structure, goals, and objectives of our programs. Advisory Council members include UE alumni and Professionals who work in the field, our program serves, Faculty from the department, and student representatives. We have seven programs that will have their own Advisory Councils*:

Civil Engineering	Construction Management
Computer Engineering	Cybersecurity
Computer Science	Electrical Engineering
Mechanical Engineering	

Members are expected to attend one meeting each year and to provide periodic feedback through e-mail correspondence as curriculum changes occur. If you (or someone you know) is interested in participating as an Advisory Council member, please contact Suresh Immanuel, Associate Dean of Engineering and Computer Science. He can be reached via e-mail at ss476@evansville.edu.

*Please Note that the Civil Engineering Advisory Council and the Mechanical Engineering Advisory Council are already fully formed and active at this time.



TIPS FOR ACADEMIC SUCCESS

Spend Time With Friends and Family

Congratulations on making it through the Fall 2024 semester! Whether it is your first semester in college or your last, each semester brings new challenges and adventures that push you to grow academically, mentally, and emotionally. Which is exhausting! While you are in school or at your job after you graduate, rest is needed to produce your best work. While you have about a month between Fall Finals and the first week of Spring semester, it is important to take full advantage of this break from school to be better prepared for a new semester. So how do you rest effectively? Here are some tips to use during break and when school is in session:

- Spend time with friends and family
- Find what "fills your cup," or what makes you feel energized
- Exercise or play an active game (basketball, volleyball, pickleball)
- Connect with nature
- Create art
- Watch a movie or show you have heard great things about
- Disconnect from your phone or other electronic devices
- Take a break from thinking or talking about school
- Make a routine of self-care
- Catch up on sleep
- Read a book

Free, confidential mental health resources are available to you as a UE student. UE Counseling Services is on the second floor of Ridgway in the Student Affairs suite. We start scheduling counseling appointments on January 6, 2025, for the spring semester. You can call 812-488-2663, email counselingservices@evansville.edu, or stop by the office to make an appointment. For more mental health tips and events, follow @uecounselingservices on Instagram.

SCHOLARSHIP OPPORTUNITY

ACEC Scholarship Program

The ACEC Research Institute is the leading source of knowledge and thought leadership for creating a more sustainable, safe, secure, and technically advanced built environment. The Institute's mission is to deliver information and business strategies that guide and elevate the engineering industry through research, forecasts, trend analysis and academic scholarships.

ACEC RESEARCH INSTITUTE Scholarship Program

Qualified engineering students have access to more than 100 scholarships totaling nearly \$1Million.

Students can receive up to a \$15,000 Scholarship

APPLY TODAY!

acecinstitute.awardspring.com

Deadline to apply for scholarships is March 14, 2025. Scholarships provided by ACEC State Member Organizations may have varying deadlines. Students must be enrolled in a college or university during the 2024-2025 academic year. Current high school students are not eligible. Scholarship funds awarded will apply to the 2025-2026 academic year only.

Both merit-based and need-based opportunities

The portal (<https://acecinstitute.awardspring.com/>) will automatically match students with ALL scholarships available to them based on their completed application. Application deadlines vary, so students are encouraged to apply today!

CHANGING LIVES.
CHANGING THE WORLD.


University
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