

TRINE UNIVERSITY

ALLEN SCHOOL OF ENGINEERING AND COMPUTING DESIGN EXPO

23RD ANNUAL • APRIL 25, 2025

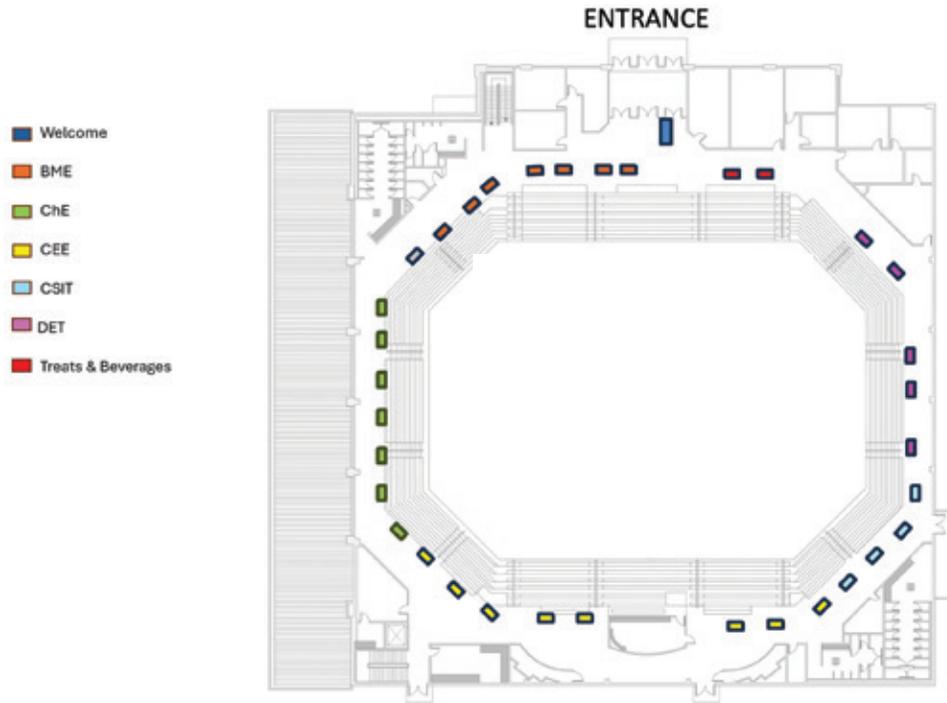


ENGINEER YOUR FUTURE

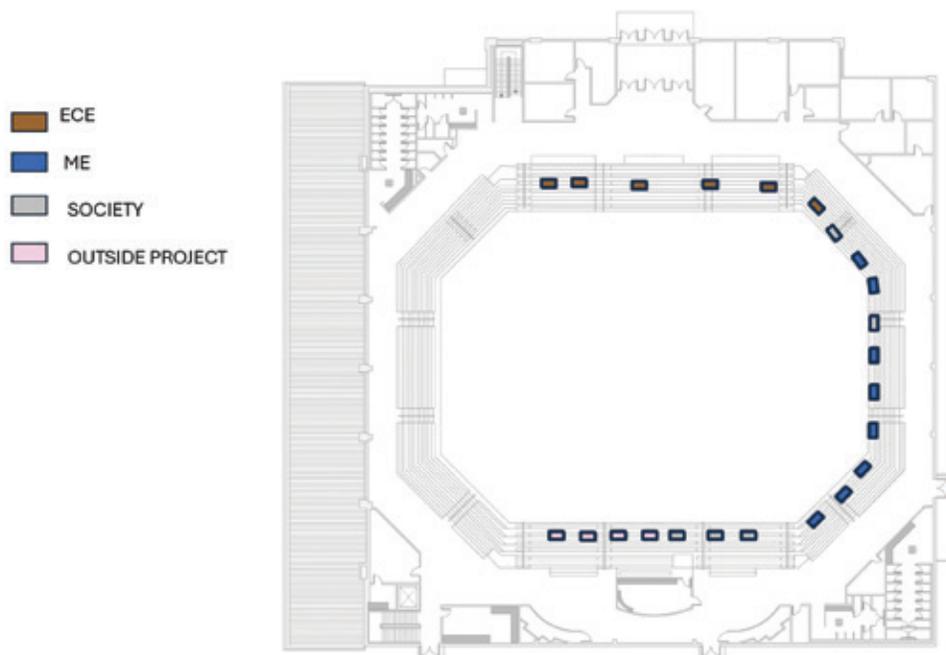
— Design. Build. Impact. —

MTI CENTER - MAP OF PROJECT LOCATIONS

MTI CONCOURSE



LOWER LEVEL



ENGINEER

YOUR FUTURE

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FROM THE DEAN

Welcome to Trine University's 2025 Engineering and Computing Design Expo! We are delighted to host you once again in our exceptional MTI Center. Today's event showcases the impressive achievements and innovation of our students across the Allen School of Engineering and Computing's seven academic departments and twelve degree programs.

On display around the concourse, you'll discover the culmination of dedicated effort, ingenuity, and technical expertise evident in our students' Capstone Design projects. Many of these projects have been sponsored by industry partners, providing our students essential real-world engineering and computing experiences, and positioning them to excel as future leaders in their fields. Also featured today are numerous Allen School of Engineering and Computing student organizations and honor societies, demonstrating the vibrant community and collaborative spirit within our school.

I invite you to engage with our talented students. Ask questions, discuss their projects, and experience firsthand the professionalism and depth of knowledge they possess. We take pride in the close interaction between faculty and students at Trine, fostering the confidence, communication skills, and technical proficiency on display today.

A heartfelt thank you goes out to all individuals, companies, and organizations whose generous contributions of resources, expertise, and sponsorship have made today's Expo possible. Special recognition goes to Sheri Thomson for her tireless coordination of this event and the creation of this program booklet, as well as to our outstanding faculty advisors who have guided our students throughout their capstone journeys.

Most importantly, to our students: Today we celebrate your outstanding accomplishments. Your creativity, determination, and commitment exemplify the best of Trine University. We eagerly anticipate the positive impact you will make in your respective disciplines and communities.

Enjoy the Expo!



Bill Barry, Ph.D., P.E.
Dean, Allen School of Engineering and Computing



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ALLEN SCHOOL OF ENGINEERING AND COMPUTING

trine.edu/engineering

PROJECT SPONSORS

Biomedical Engineering

Dr. Courtney Sproat PT, DPT, CLT
Mechtek
Parkview Health
Trine University - Department of
Biomedical Engineering

Chemical Engineering

Conduit Space Recovery
Dr. Jerry Allen
Metal Technologies
POET Biorefining
Renewable Technologies
SDI La Farga Copperworks
SDI/Iron Dynamics

Civil and Environmental Engineering

City of Angola
City of Angola Street Department
Steuben County
Trine University
Trine University - Reiners Department of
Civil and Environmental Engineering
United States Environmental Protection
Agency

Computer Science and Information Technology

Community Flags
Regional Water and Wastewater Utilities
Rising Tide Learning L.L.C.
Trine University - Franks School of Education

Design Engineering Technology

Color-Master Inc.
Indiana Department of Transportation
Innovation Department
Moorfeed Corporation
Trine innovation1
Trine University - Department of
Design Engineering Technology
Turnstone
U.S.A. Goalball

Electrical and Computer Engineering

Steel Dynamics
Trine University - Department of Electrical

and Computer Engineering

Mechanical and Aerospace Engineering

A.V. Renovations and Property
Management of Hammond, Ind.
American Foundry Society (AFS)
Bahr Brothers
BF Goodrich
Buhr Engineering
Color Master Inc.
Dexter Axle
Foundry Education Foundation (FEF)
Hot Rod Golf Carts
Indiana Space Grant Consortium
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Master Spas
Metal Technologies
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Crane Division
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OmniSource
SDI La Farga Copperworks
Steel Dynamics
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and Transportation
Trine University - Mechanical Engineering
Cast Metal Advisory Board
Trine University - Wade Department of
Aerospace and Mechanical Engineering
Vemeer of Central Illinois

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ENGINEERING DESIGN EXPO 2025

JIM AND JOAN BOCK DEPARTMENT OF BIOMEDICAL ENGINEERING



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Central Line Trainer

Members: Margaret Armintrout
Brooke Hoag
Paige Hull
Hailey Jakubowski
Advisor: Beau Watson, Ph.D.
Sponsor: Parkview Health



The Central Line Trainer is an advanced simulation device designed to assist healthcare professionals and students in mastering central line insertion. Equipped with integrated sensors, it provides real-time feedback by detecting errors, such as improper needle placement or excessive depth. This trainer enhances skill development, improves procedural accuracy, and ensures a safer learning experience in clinical settings.



From left, Margaret Armintrout, Hailey Jakubowski, Paige Hull, Brooke Hoag.

Digestive Track Trainer

Members: Hannah Bodrie
Sadie Edsall
Ryleigh Furlong
Tristen Moore
Advisor: Beau Watson, Ph.D.
Sponsor: Trine University -
Department of
Biomedical Engineering

The Digestive Tract Trainer is an interactive anatomical model designed to visually demonstrate peristalsis and segmentation for enhanced student learning. Utilizing servo motors, 3D-printed components, and silicone molds, the trainer simulates the dynamic movement of food through the digestive system. This project focuses on functionality, durability, and anatomical accuracy to create an engaging and innovative educational tool for the Trine University Rinker-Ross School of Health Sciences Anatomy and Physiology courses.



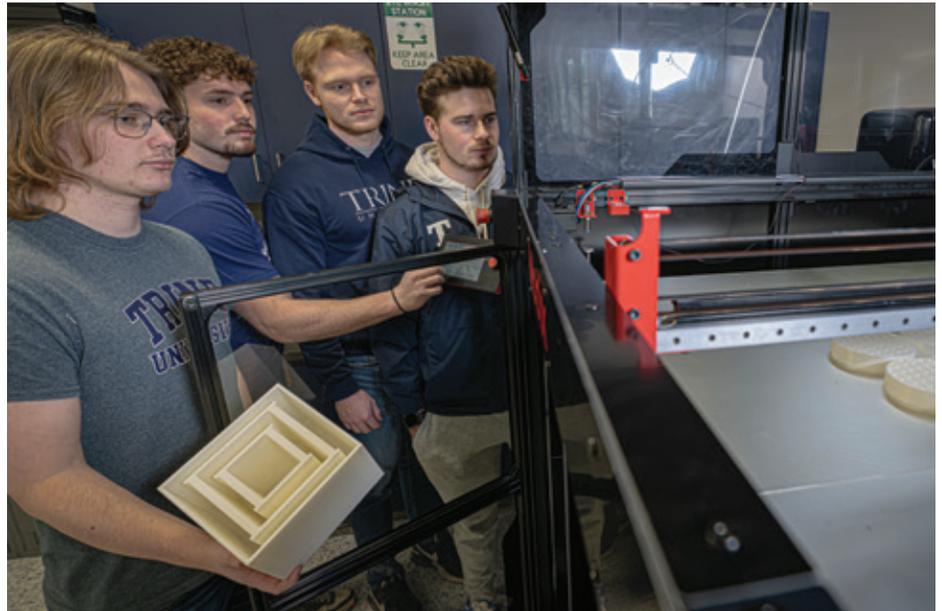
From left, Hannah Bodrie, Ryleigh Furlong, Sadie Edsall, Tristen Moore.

Human Tissue Cold Shipment

Members: Clay Dean
Tanner Goff
Isaac Henry
Trevor McKinnon
Advisor: John Patton, Ph.D.
Sponsor: Mechtek



Our team developed a high-performance cooler designed for umbilical cord transport, capable of maintaining human tissue at a stable temperature of 2-8°C for at least 48 hours. This ensures optimal preservation of umbilical cords, which are crucial for harvesting valuable stem cells.



From left, Isaac Henry, Tanner Goff, Clay Dean, Trevor McKinnon.

Lymphometrics

Members: Teresa Ashbrook
Isabel Bowers
Caleb Koob
Paige Skaff
Advisor: John Patton, Ph.D.
Sponsor: Dr. Courtney Sproat,
PT, DPT, CLT



Lymphedema is a chronic condition characterized by swelling due to impaired lymphatic drainage, often arising after cancer treatments. Accurate measurement of limb volume is essential for diagnosing and monitoring lymphedema, but current manual methods using tape measures are time-consuming and prone to variability. This project aims to design a durable, easy-to-clean segmented model with integrated measurement straps evenly spaced every 4 cm to automate the measurement process, providing more reliable and efficient volume calculations. The proposed device will have intra-rater and inter-rater reliability and accelerate the measurement process, allowing therapists to focus on patient care while standardizing lymphedema management.



From left, Caleb Koob, Paige Skaff, Isabel Bowers, Teresa Ashbrook.

MCKETTA DEPARTMENT OF CHEMICAL AND BIOPROCESS ENGINEERING



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Analysis of Binder Compositions for Improved Briquette Strength

Members: Matthew Bates
Nick Bristol
Landon Henderson
Advisor: Jacob Borden, Ph.D.
Sponsor: SDI/Iron Dynamics

The objective of this study is to analyze the sugar content and type of sugar present in different binders and evaluate their impact on the strength of the sugar-lime bond. By identifying and quantifying the sugars in each binder, we aim to determine whether the volume of sugar or the specific sugar type plays a more significant role in influencing the bond strength. A comparative assessment of sugar-lime bond strength is conducted for each binder to establish correlations between sugar composition and mechanical performance. The findings of this research provide insights into the fundamental interactions between sugars and lime, contributing to the optimization of binder formulations for enhanced material performance.



From left, Matthew Bates, Nick Bristol, Landon Henderson.

Characterization of Raw Materials and Products of Pyrolysis

Members: Taylor Early
Aaron Phillips
Madison Ruen
Advisor: Jacob Borden, Ph.D.
Sponsor: Renewable Technologies

Microwave Renewable Technologies focuses on the transformation of waste tires into valuable products through microwave-assisted pyrolysis. By characterizing rubber feedstock, pyrolysis oil, and biochar, we aim to optimize their industrial applications while reducing carbon footprints. This project investigates properties such as chemical composition, moisture content, and bulk density to enhance the efficiency and sustainability of tire recycling.



From left, Aaron Phillips, Taylor Early, Madison Ruen.

Exhaust Hood Heat Exchanger Design

Members: Ethan McLenon
Parker Reichhart
Advisor: Jacob Borden, Ph.D.
Sponsor: Metal Technologies

This project focuses on the design of a waste heat recovery system integrated with a metal dryer, aimed at harnessing the excess energy from its exhaust gas stack. By capturing the excess heat that is being lost during the drying process, the waste heat recovery system generates steam, which can then be utilized elsewhere in the process. The ultimate goal is to increase energy efficiency and reduce the overall operational cost.



From left, Ethan McLenon, Parker Reichhart.

Optimization of a Soot Recovery System

Members: Marshall Beebe
Lydia Randolph
Joshua Scott
Advisor: Jacob Borden, Ph.D.
Sponsor: SDI La Farga Copperworks

The expansion at Steel Dynamics La Farga Copperworks has exceeded the capacity of the existing soot recovery system, leading to inadequate filtration.

This project focuses on designing an improved system that integrates continuous turbidity monitoring, while optimizing the existing system with alternatives such as flocculant selection and dosing rates and new filtration paper, or a new cyclone filtration system within spatial constraints. By implementing a durable turbidity meter and refining separation processes, the design aims to improve soot removal efficiency and reduce maintenance. These improvements provide a cost-effective, scalable solution to enhance system performance and ensure compliance with industry standards.



From left, Joshua Scott, Marshall Beebe, Lydia Randolph.

Team Conduit: Quick Dry Coating for Fiber Optic Cables

Members: Haley Hartmann
Alyssa Keptner

Advisor: Jacob Borden, Ph.D.

Sponsor: Dr. Jerry Allen

This project focuses on choosing or developing a fiber optic cable surface coating that provides abrasion resistance while being quick drying and providing a low coefficient of friction (COF). Methods were developed to determine coating applications, how quickly the coatings dry, and determining the COF. Different commercially available coatings are tested using different methods to find what method and coating dries the quickest.



From left, Dean Campbell, Haley Hartmann, Natalie Crowner, Alyssa Keptner.

Team Conduit: Resistant Coating for Fiber Optic Cables

Members: Dean Campbell
Natalie Crowner

Advisor: Jacob Borden, Ph.D.

Sponsor: Conduit Space Recovery
Dr. Jerry Allen

Fiber optic cables incur scoring while being installed unprotected. Conduit Space Recovery Systems sells cable protectants of low thickness to save space within a fiber optic cable conduit and now wants to utilize a chemical coating to further cut down on protectant thickness. We collected data on several different commercially available coatings across many variables including abrasion resistance, friction factor, transparency, quick drying, chemical compatibility, and safety. Our group focused on gathering abrasion data from producing friction between two pieces of coated or uncoated cable.

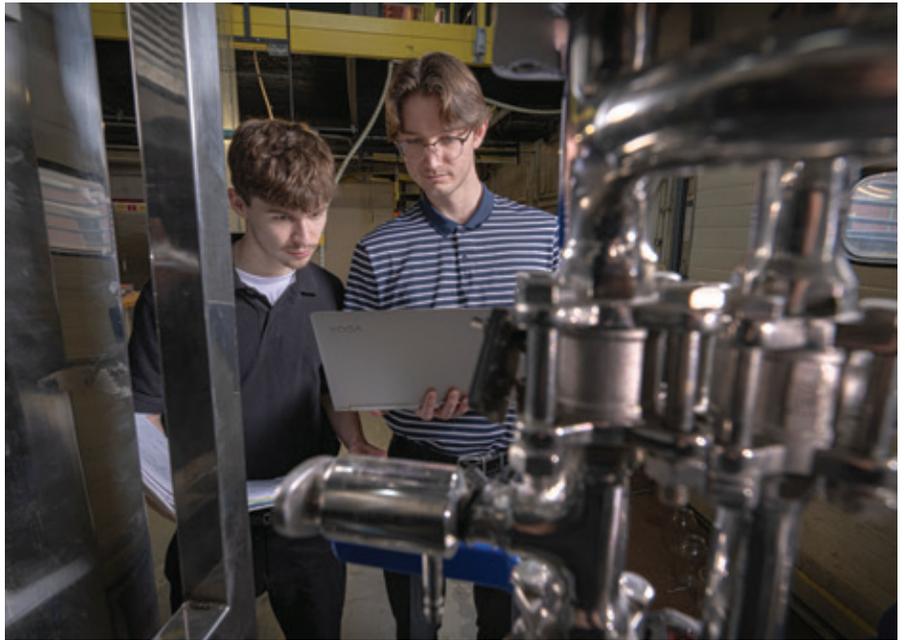
Pipe System Designs for a Bioethanol Plant

Members: Koen Droese
Aaron Hoffman

Advisor: Jacob Borden, Ph.D.

Sponsor: POET Biorefining

This senior design project for POET focuses on automating the transfer of yeast solution from a tote to a yeast propagation tank, streamlining the process through a piped system to improve efficiency and consistency. Another project objective is to optimize the water treatment area by eliminating the reject tank and pump, reducing energy consumption and freeing up valuable space.



From left, Aaron Hoffman, Koen Droese.

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REINERS DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING



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Angola Water Line Replacement

Members: Cayden Smith
Nicolas Squillacioti
Ashton Still
Advisor: T. J. Murphy
Sponsor: City of Angola

The City of Angola requested a replacement of an aging water main along Calvary Lane. The City engineers also requested: 1) adding new sidewalks for pedestrian safety and 2) redesigning the existing road, which is also nearing the end of its service life. The project required surveying, pavement design, stormwater drainage analyses, and developing a base map and a set of construction plan and profile drawings for the roadway. A railroad crossing along the road provided unique considerations.



From left, Nicolas Squillacioti, Cayden Smith, Ashton Still.

EPA Campus RainWorks Challenge

Members: Emma Beyer
Erin Downing
Sydney Kalinger
Advisor: T. J. Murphy
Sponsor: Trine University
United States Environmental
Protection Agency

The Campus RainWorks Challenge is a green infrastructure design competition for American colleges and universities. It seeks to engage with the next generation of environmental professionals, foster a dialogue about the need for innovative stormwater management techniques, and showcase the environmental, economic, and social benefits of green infrastructure. The Capstone students worked with Trine administration and staff to design sustainable stormwater infrastructure for the ongoing campus growth. The students also created an educational video to highlight their designs.



From left, Sydney Kalinger, Erin Downing, Emma Beyer.

Harcourt Road & Wohlert Street Roundabout

Members: Landon Barrow
Rylan McBride
Ethan Spahr
Laurynn Wieland

Advisor: Jeremy Rentz, Ph.D.

Sponsor: Trine University -
Reiners Department of
Civil and Environmental
Engineering

The intersection of Wohlert Street and Harcourt Road in Angola, Indiana faces inefficiencies, safety issues, and inadequate pedestrian infrastructure. This project proposes a single-lane roundabout to improve traffic flow, reduce crashes, and integrate sustainable practices. Using traffic data and modeling, the design follows INDOT and FHWA guidelines. Key features include rain gardens, permeable pavers, and LED lights for low-impact development. Expected outcomes are enhanced safety, reduced delays, and environmental benefits through sustainable urban infrastructure.



From left, Ethan Spahr, Landon Barrow, Rylan McBride, Laurynn Wieland.

New Angola Salt Storage Building

Members: Ryan Gienger
Brendyn Lima
Cristian Wong-Ramos

Advisor: T. J. Murphy

Sponsor: City of Angola
Street Department

This project was to design a new salt storage facility for the City of Angola Streets Department to meet the city's growing needs for winter road maintenance. The facility will replace outdated wooden structures and was designed to accommodate future city growth. The design incorporated enhancements for operational efficiency, such as widening the driveway to accommodate future truck traffic. Stormwater management was addressed with the integration of a vegetated swale adjacent to the site, which promotes natural infiltration.



From left, Ryan Gienger, Cristian Wong-Ramos, Brendyn Lima.

New Trine Student Design Center

Members: William Burba
Trenton Round
Maxwell Somerfield
Advisor: T. J. Murphy
Sponsor: Trine University

Trine University plans to build a new Student Design Center (SDC) to have a larger and more versatile facility than the existing SDC. At the start of this project, the location of the new SDC was undetermined, so for this project, students designed a new, larger facility, at the location of the existing SDC. The project required surveying, structural analysis and design, foundation design, stormwater management, and site planning.



From left, Trenton Round, Maxwell Somerfield, William Burba.

State Road 827 Multipurpose Trail

Members: Sophia Aschemeier
Timothy Bohlman
Christopher Gault
Fatima Rodriguez
Advisor: T. J. Murphy
Sponsor: Steuben County

This project was the comprehensive design of a 6-mile multi-use trail connecting Angola and Fremont along State Road 827. The trail addresses the critical need for safe, non-motorized pathways in Steuben County. This trail will enhance community connectivity, promote active lifestyles, and support environmental sustainability. The design included surveying and creating a base map, pavement design, site development, and stormwater management. The project also required the analysis and design of extensions to the existing stormwater culverts underneath the road.



From left, Christopher Gault, Sophie Aschemeier, Fatima Rodriguez, Timothy Bohlman.

Summit Street Dormitory

Members: Daphne Bush
Ryan Hoak
Evan Holman
Aaron Loos
Reece Soel

Advisor: Jeremy Rentz, Ph.D.

Sponsor: Trine University -
Reiners Department of Civil
and Environmental Engineering

Trine University's growing enrollment necessitated the design of a 316-bed dormitory featuring residential and public amenities, including a gym, study areas, and Grab 'n Go dining. This four-story, steel-framed structure includes a skylight-lit atrium, stormwater systems with pervious pavement and off-site conveyance, helical pier foundations, and efficient site grading. Using RISA3D and Civil 3D, the team optimized structural stability, drainage, and layout while adhering to ASCE and IBC standards. The project enhances campus infrastructure and supports future growth.



From left, Aaron Loos, Daphne Bush, Reece Soel, Ryan Hoak, Evan Holman.

Zollner Golf Course: Hole 9 Redesign

Members: Kevin Boncaro
Mason Fritch
Kamron Hill
Austin Smith

Advisor: Jeremy Rentz, Ph.D.

Sponsor: Trine University -
Reiners Department
of Civil and
Environmental
Engineering

Frequent flooding on Hole 9 of Zollner Golf Course disrupts playability. Our project redesigned the pond with a reinforced retaining wall to increase storage capacity and added an overflow system to handle excess water. A rain garden near the tee box manages runoff and supports local ecosystems. Soil testing revealed poor drainage, guiding our design decisions. By using native plants and sustainable materials, we reduced environmental impact and maintenance needs. This redesign improves drainage, enhances playability, and promotes long-term sustainability.



From left, Kevin Boncaro, Mason Fritch, Austin Smith, Kamron Hill.

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY



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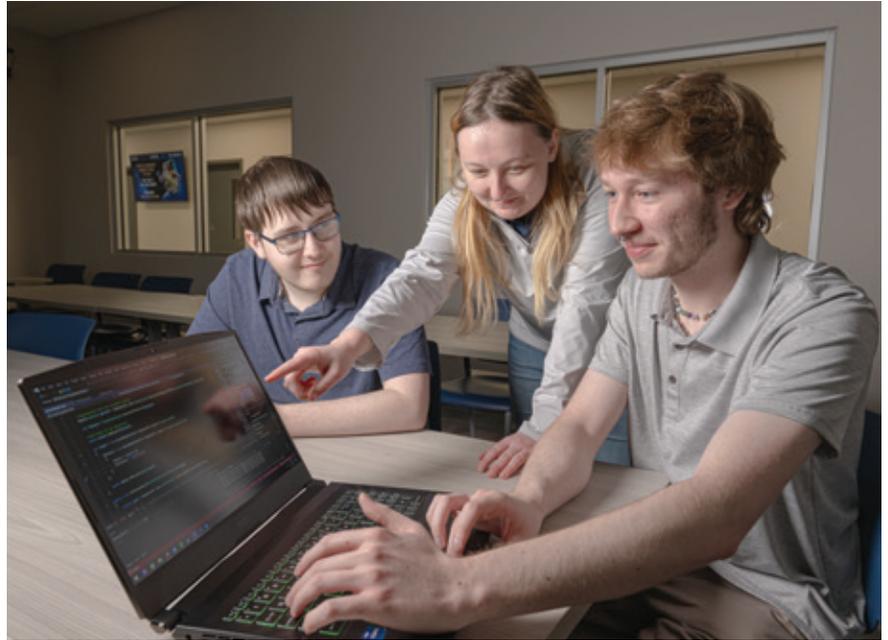
**EXTENDED
REALITY**

ARC

Members: Anthony Czerniak
Cody Rhodes
Rayne Snyder
Advisor: David Corcoran
Sponsor: Community Flags



Community Flags is a nonprofit that deploys flags in various locations during certain holidays. The team will automate the process of signing up for users and streamline management.



From left, Anthony (AJ) Czerniak, Rayne Snyder, Cody Rhodes.

BabbleBot

Members: Anthony Hentz
Mohammed Tariq
Advisor: David Corcoran
Sponsor: Rising Tide Learning LLC

BabbleBot was a senior design project last year last year that branched off into its own company under the control of last year's students. This year, the project is back to help young students, but is focused on those in school learning English as a new/second language. Still using the same Science of Reading principles, BabbleBot ML (multi-language) aims to provide English learners the same great experience.



From left, Anthony Hentz, Mohammed Tariq.

CyberJuice

Members: Frank Baumgartner
Nicholas Lauro
Trennan Lilly
Jackson Wilhite
Advisor: David Corcoran
Sponsor: Regional Water and
Wastewater Utilities

The purpose of our senior design project team, designated "CyberJuice," is to evaluate the physical and digital security of four different water treatment plants in the surrounding area of Trine University. By performing site visits, research, and correspondence with the water superintendents and their tech providers, we have developed documentation and discovered funding opportunities which will increase the defenses of these locations.



From left, Trennan Lilly, Jackson Wilhite, Nick Lauro, Frank Baumgartner.

Emerson Technologies

Member: Justin Layne
Advisor: David Corcoran
Sponsor: Trine University -
Franks School
of Education

Franks School of Education was in need of a new software for their accreditation program due to the last one being shut down. The goal was to build software from the ground up to meet their needs and wants.



Justin Layne

DEPARTMENT OF DESIGN ENGINEERING TECHNOLOGY



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55-Gallon Drum Handler

Members: Brett Baker
Spencer Carolus
Jonah Lockard
Maxim Mijic

Advisor: Tim Jenkins, Ph.D.

Sponsor: Color Master Inc.



At Color Master in Butler, Indiana color pigments and concentrates are prepared and mixed in 55-gallon drums. These drums are currently moved around the factory floor by being rolled around on the drum edge. This solution is strenuous on the workers and at times unsafe. Drum dollies that are available are less efficient and inconvenient to use. The design team developed a solution by creating a drum-handling device that is capable of lifting the drum high enough to be placed on a scale or tumbler as well as compact and maneuverable enough to move over rough floors and fit inside the tumbler cage.



From left, Jonah Lockard, Maxim Mijic, Brett Baker, Spencer Carolus.

Goalball Throwing Machine

Members: Destany Garcia-Ortiz
Caleb Morris
Michael Rich
Caleb Shaffer
Matthew Smith

Advisor: Tim Jenkins, Ph.D.

Sponsor: Trine innovation1
Turnstone
USA Goalball

Goalball is a Paralympic sport for visually impaired athletes in which a rubber ball with bells inside is thrown down a court, bouncing twice, with the hope of going into the opposing team's goal. The design team was tasked with designing a practical machine that could throw the goalball properly to improve practice efficiency but also help athletes improve skills by delivering simulated human pitches across the court. The major concern for the machine is that it must be almost whisper quiet, as the game involves players being able to hear the ball coming toward them and the goal.



From left, Matthew Smith, Michael Rich, Caleb Shaffer, Destany Garcia-Ortiz, Caleb Morris.

NASA Rover Human-Powered (HP) Challenge

Members: Juan Arroyo
Bailey Bravata
Grace Captain
Braden Duncan
Allen Jones
Dominic Skinner
Kevin Sorensen
Evan Sosinsky

Advisor: Tim Jenkins, Ph.D.

Sponsor: Trine University -
Design Engineering
Technology
Department



From left, Juan Arroyo, Braden Duncan, Evan Sosinsky, Dominic Skinner, Allen Jones, Bailey Bravata, Grace Captain, Kevin Sorensen.

The project's aim was to design and build a human-powered rover vehicle for the NASA Human Exploration Rover Challenge competition, piloted by one male and one female astronaut. The rover must fit within a 5-ft x 5-ft x 5-ft box to simulate transport to the Earth's moon, weigh less than 170 pounds, and maintain a 1-ft clearance for pilot safety. The design must be able to traverse various obstacles that simulate terrain on other planets including rocky surfaces, slopes, and loose gravel. Pilots also have a time limit of 8 minutes to complete the course based on simulated oxygen reserves.

NASA Rover Remote Control (RC) Challenge

Members: Wesley Derry
Nathan DeYoung
Aylee Rupert
Hannah Sibery
Shane Skinner
Owen Tong

Advisor: Tim Jenkins, Ph.D.

Sponsor: Trine University -
Design Engineering
Technology
Department



From left, Hannah Sibery, Nathan DeYoung, Owen Tong, Shane Skinner, Aylee Rupert, Wesley Derry.

The team designed and built a remote-controlled rover robot for the NASA Human Exploration Rover Challenge. The challenge tasks the team with creating a remote-controlled rover that fits in a 2.5 ft. x 2.5 ft. x 2.5 ft cube, weighs less than 30 pounds, and is battery-powered. The robot must complete terrain mapping and sample collecting tasks while traversing several obstacles including slopes, rocky terrain, a slalom, and crevasses. Lastly, a cargo bay is needed to hold a sensor package which is the final task. All of the tasks and obstacles must be completed in an 8-minute time window.

Utility Truck Asphalt Spreader

Members: Hunter Borski
Madison Kasten
Jared Neireiter
Philip Nemecek
Ryan Schamp
Advisor: Tim Jenkins, Ph.D.
Sponsor: Indiana Department
of Transportation
Innovation Department



The Indiana Department of Transportation (INDOT) uses a simple tow-behind machine to spread asphalt directly from a dump truck to patch roads without needing specialized resurfacing equipment. One challenge with this

design is width, which poses a safety hazard when transported to a job site. The design team reimagined the spreader to be lighter, collapsible, and easier to build. The team added better jacks, a rack-and-pinion gear drive and collapsible catwalks to meet these goals. The spreader is adjustable from 8-12 feet, which allows for safe transport while providing expandability for lane width work.



From left, Ryan Schamp, Madison Kasten, Philip Nemecek, Hunter Borski, Jared Neireiter

Vibratory Bowl Feeder Design Improvements

Members: Patrick Cahill
Ethan Killeen
Clayton Schenkel
Gage Semple
Joshua Virgil
Advisor: Tim Jenkins, Ph.D.
Sponsor: Moorfeed Corporation

The Dynamic Design Group redesigned



a ten-inch vibratory bowl feeder drive unit using an original design given by the sponsor, Moorfeed. The unit uses two magnetic coils that cause the steel leaf springs attached to the units' cross-arm to vibrate. This vibration transfers to the attached stainless steel bowl, causing the small parts in the bowl to orient and move. The drive unit base and lugs are made of plain carbon steel. The redesign will correct faults in the current design, including binding within the leaf springs, stress around bolt holes, excess weight, and stress within the cross-arm.



From left, Joshua Virgil, Ethan Killeen, Gage Semple, Clayton Schenke.

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING



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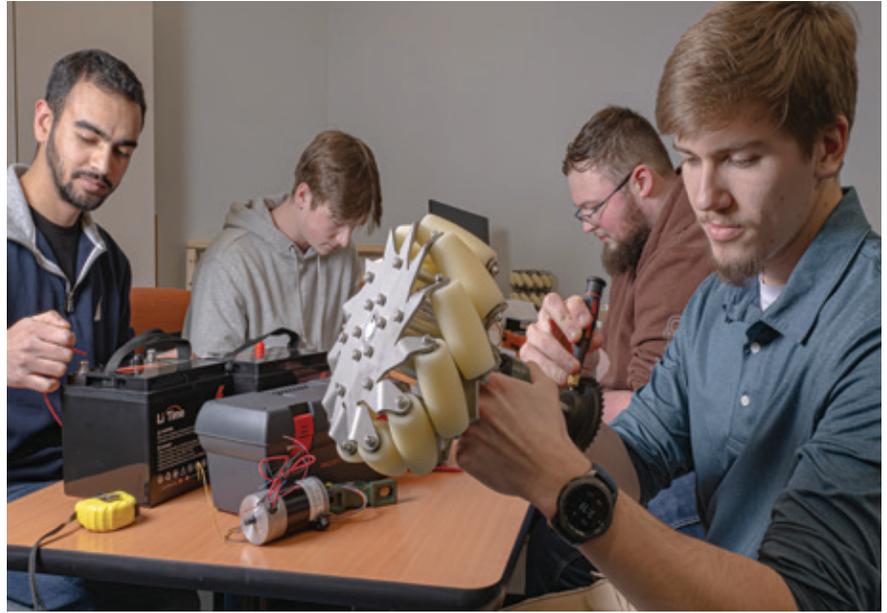


ELECTRICAL

Omni-Directional Go-Kart

Members: Grant Deaton
Frank Monnig
Michael Richer
Angel Rodriguez
Advisor: Kevin Woolverton, Ph.D.
Sponsor: Trine University -
Department of
Electrical and
Computer Engineering

The Omni-Directional Kart is a small sled with wheels that can carry 200 pounds and can move in any direction without turning the vehicle by use of joysticks for control. The Kart's speed will be shown on a display with a maximum speed of 15 mph.

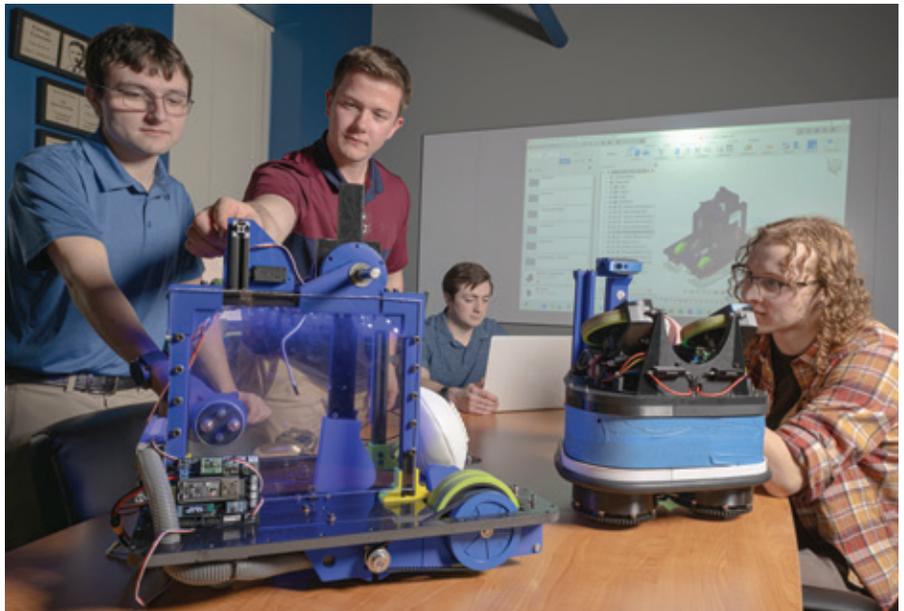


From left, Angel Rodriguez, Grant Deaton, Michael Richer, Frank Monnig.

Robotic Football: Kicker Robot and Receiver Tracking

Members: Brayden Amoroso
Caden Daffron
Nathan Del Guanto
Shane Wood
Advisor: Sean Carroll, Ph.D.
Sponsor: Trine University -
Department of
Electrical and
Computer Engineering

The Collegiate Robotic Football Conference (CRFC) holds an annual competition at various locations. Teams from different schools design, build, and program robots to compete. For our project, we will develop two concepts: a kicker robot and an aim-assistance system for the quarterback and receiver. The kicker robot will be user-controlled and used for kickoffs and field goals. The aim-assistance system will use a webcam to detect the receiver, rotate the quarterback, and calculate the throw power based on distance.



From left, Shane Wood, Nathan Del Guanto, Brayden Amoroso, Caden Daffron.

Robot Lawn Mower Base Station

Members: Shaif Ahmed
Ethan Bowers
Simon Elliott
Advisor: Sean Carroll, Ph.D.
Sponsor: Trine University -
Department of
Electrical and
Computer Engineering

We developed a smart charging station for a robotic lawn mower with multiple features. It hosts a web interface for monitoring and control, detects rain to ensure safe charging, and includes a camera to capture images of the robot. This innovative design enhances user experience, providing real-time information and improved maintenance capabilities.

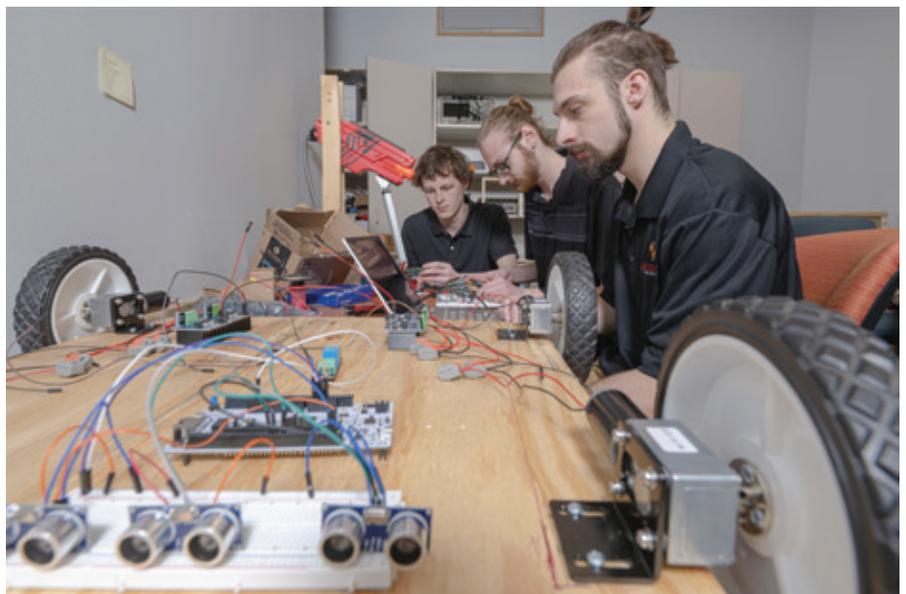


From left, Shaif Ahmed, Ethan Bowers, Simon Elliott.

Robot Mower

Members: Nathan Leap
Joseph Packard
Kaleb Schaf
Advisor: Sean Carroll, Ph.D.
Sponsor: Trine University -
Department of
Electrical and
Computer Engineering

We are designing a fully autonomous mower capable of navigating a user-defined area and returning to its base station when mowing is complete or the battery requires charging. The mower will use sensors to detect objects and avoid collisions, ensuring safe operation. Its body will be constructed from a 2-by-2-foot, 5/8-inch-thick wooden plank. The mower will communicate with a base station, which hosts a website interface providing real-time updates, including battery charge status, mowing progress, and a start/stop control for user convenience.



From left, Kaleb Schaf, Joseph Packard, Nathan Leap.

Self-Balancing Skateboard

Members: Clay Kirkpatrick
Brandon McCraner
Micah Mumaw
Francesca Queary

Advisor: Andrea Mitofsky, Ph.D.
Sponsor: Steel Dynamics

The Self-Balancing Skateboard is a personal electric vehicle featuring a single central wheel surrounded by an aluminum frame. Riders will control movement by shifting their weight forward or backward depending on the desired direction. There is a companion mobile app that displays speed, battery life, and mileage feedback while also allowing users to customize settings such as max speed and LED lighting. The Self-Balancing Skateboard offers riders a convenient and customizable ride adept for urban travel.



From left, Clayton Kirkpatrick, Brandon McCraner, Micah Mumaw, Francesca Queary.

Sumo Robot

Members: Philip Burney
Malachi Henry
Logan Martin

Advisor: Kevin Woolverton, Ph.D.
Sponsor: Trine University -
Department of
Electrical and
Computer Engineering

The Sumo Robot is an autonomous robot designed to meet the requirements to compete at the NRC's 2025 Sumo robotics competition. The robot must fit in a 20" x 20" x 20" box and weigh less than 20 lbs. The robot must be battery powered and have a sensor array that allows it to locate and push an enemy sumo robot out of the competition ring. The robot won first place at the competition.



From left, Philip Burney, Malachi Henry, Logan Martin.

WADE DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING



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MECHANICAL

Learn more



MECHATRONICS AND ROBOTICS

Acetylene Soot Emissions Mitigation System

Members: John Englund
Nathan Goossen
Alex Kratzer
Grant Swain
Logan Wagler

Advisor: Gurudutt Chandrashekar, Ph.D.

Sponsor: SDI La Farga Copperworks

The SDI Copperworks plant produces copper wire using a rotating circular mold, which constantly takes in molten metal from one side and puts out one long bar of copper. In order to keep the copper from sticking to the mold and to insulate the mold from the heat of molten metal, they coat the mold in a fine layer of soot by burning acetylene directly onto the mold. This process creates a lot of extra soot, which escapes into the air as smoke. As part of a new cleanliness initiative, Copperworks has asked us to design a system which can capture escaping soot and filter it out of the air.



From left, Logan Wagler, Grant Swain, John Englund, Nathan Goossen, Alex Kratzer.

AIAA Design, Build, Fly

Members: Hailey Budney
Dillon Dennison
Matthew Edison
Bryan Maida
Nathan Mast
Ryan McDonald
Cassidy Victor

Advisors: Jamie Canino, Ph.D.
Gurudutt Chandrashekar, Ph.D.
Joseph Thompson II

Sponsor: Indiana Space Grant Consortium

The goal of this project is to design and build an RC aircraft capable of successfully completing the missions outlined by the AIAA for the 2024-2025 competition. The objective is to complete an X-1 Supersonic Flight Test Program, including one ground mission and three flight missions - delivery flight, captive carry flight, and launch flight. To accomplish this objective, the team reviewed requirements, developed and finalized a design, and tested various iterations. Carbon fiber was utilized in many components because of its significant weight reduction and high strength.



From left, Hailey Budney, Cassidy Victor, Matthew Edison, Ryan McDonald, Nathan Mast, Bryan Maida, Dillon Dennison.

Artificial Intelligence Maritime Maneuver Indiana Collegiate Challenge

Members: Kenesaw Cramer
Maxwell Harris
Sterling Haylett
Matthew Jimenez
Jackson Sherwood
John Wrachford

Advisor: Rizacan Sarikaya, Ph.D.

Sponsor: Naval Surface Warfare
Center - Crane Division

The AIMM-ICC team was challenged to build a boat that runs by itself to complete a series of challenges ranging from buoy slalom courses to picking up objects in the water. The boat needed to run without any human or remote-control intervention, while completing the challenge course faster than other college competitors. To complete the tasks, subsystems were designed to allow full functionality of the boat, all backed by autonomous and mechatronics programs. The Trine team consisted of six students to make the project possible: 2 ME students, 2 DET students, 1 MRE student, and 1 CSIT student.



From left, John Wrachford, Kenesaw Cramer, Jackson Sherwood, Matthew Jimenez, Maxwell Harris, Sterling Haylett.

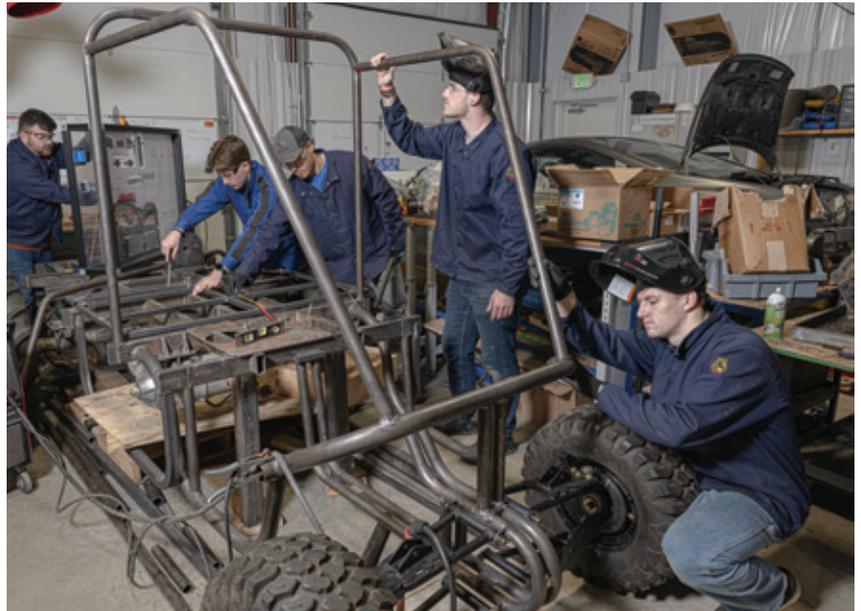
Campus Service Vehicle

Members: T. Aaron Greene
Timothy Kasper
Matthew Martin
Sean Seacatt
Augustine Vargas

Advisor: Rizacan Sarikaya, Ph.D.

Sponsor: A.V. Renovations and
Property Management
of Hammond, IN
Buhrt Engineering
Trine University -
Environmental Services
and Transportation
Vermeer of Central Illinois

The goal of this year's Campus Service Vehicle team was to create a hydro-vacuum excavation vehicle for the Campus Operations team at Trine. These vehicles use pressurized water and a vacuum system to safely and efficiently excavate soil without damaging underground utilities. The team's design features a new front end for safer travel, a strong vacuum and pressure washer system to perform hydro-excavation, and an improved steering system for better maneuverability in remote areas. This vehicle provides the Campus Ops team a safer and more efficient way to maintain underground utilities.



From left, Sean Seacatt, Matthew Martin, Augustine Vargas, Timothy Kasper, Aaron Greene.

Cast in Steel George Washington's Sword

Members: Nathaniel DiRe
Alexander (Reese) Greene
Rhett Laud
Hayden Smith
Nikolas Uhler

Advisors: Rizacan Sarikaya, Ph.D.
Darryl Webber, Ph.D.

Sponsor: American Foundry Society (AFS)
Bahr Brothers Foundry Education Foundation (FEF)
Metal Technologies
Omni Source
Steel Dynamics
Trine University - Mechanical Engineering Cast Metal Advisory Board



From left, Nikolas Uhler, Reese Greene, Nathaniel DiRe, Rhett Laud.
Not pictured: Hayden Smith.

Students participated in the Cast in Steel competition, hosted by the Steel Founders' Society of America (SFSA), to design and manufacture a functional sword using the steel casting process. A replica of George Washington's Cuttuo sword was created using simulations and mechanical testing to ensure strength and durability. With support from local foundries, the sword was cast at Trine University. The final product underwent rigorous testing before the team participated in the 2025 competition in Atlanta, demonstrating its functionality.

Combat Robot

Members: Porter Galvan
Alex Gansert
Benton Knox
Jamie Le
Mia Woods

Advisors: Rizacan Sarikaya, Ph.D.
Joseph Thompson II

Sponsor: Trine University - Wade Department of Aerospace and Mechanical Engineering



From left, Jamie Le, Porter Galvan, Alex Gansert, Benton Knox, Mia Woods.

The 2024-2025 Combat Robot team will compete in the National Robotics Challenge (NRC) from April 4-5 in Marion, Ohio. The team's primary goal is to place in the top three for the Beetle Weight division, a category where the robot must remain under 3 lbs. To achieve this, the team is designing and building a robot that adheres strictly to the NRC's technical and safety guidelines, ensuring it is both functional and competitive. The project budget is initially \$700 plus any additional funding donated or fundraised by the team.

Dexter Pallet Squeezer (Phase 2) and Electromagnetic Brake Component Testing Device

Members: Caleb Brown
Tucker Hasselman
Blake Lude
Gabriel Luke
Dillon Sims

Advisor: Gurudutt Chandrashekar, Ph.D.
Sponsor: Dexter Axle

The Dexter Senior Design team redesigned a prototype for testing the magnetic force of electromagnets in trailer brakes. Since the original prototype resulted in inaccurate measurements, a more consistent system was necessary. Our process included brainstorming, CAD modeling, simulations and fabrication of multiple prototypes. Key subsystems include the electrical system, strain gauge mount, and a positioning system. This improved tester enhances quality control by detecting defects early, ensuring higher-quality products for Dexter.



Back from left, Gabriel Luke, Blake Lude, Caleb Brown.
Front from left, Dillon Sims, Tucker Hasselman.

Process Feed Elevator Vibration Dampening

Members: Riley Bennett
John Hermann
Jacob Louks
Isabella Mabry
Hunter McIntyre
Mackenzie Miller

Advisors: Gurudutt Chandrashekar, Ph.D.
Joseph Thompson II

Sponsor: Color Master Inc.



Color Master's customer need was to isolate a critical piece of machinery in one of their production lines from outside vibration. The group was able to gain knowledge on their production process and experimentally deduce where the vibration was occurring in the line. The team collected data, analyzed solutions, and presented a list of potential action plans to reduce the amount of vibration in the system. The group utilized trend identification and created 3D models to analyze the data collected from the production line and provide evidence to support the solutions presented to Color Master.



From left, John Hermann, Hunter McIntyre, Isabella Mabry, Riley Bennett, Mackenzie Miller, Jacob Louks.

Shell Eco-Marathon

Members: Hunter Burke
Andrew Mackey
Drew Marry
Joshua Metcalf
Johnathan Sheets
Evan Straske

Advisors: Rizacan Sarikaya, Ph.D.

Sponsors: Hot Rod Golf Carts
Kautex
Master Spas
Nidec
Trine University - Wade
Department of Aerospace and
Mechanical Engineering



From left, Drew Marry, Hunter Burke, John Sheets, Joshua Metcalf, Evan Straske, Andrew Mackey



We designed and tested a high-efficiency electric vehicle for the Shell Eco-Marathon at the Indianapolis Motor Speedway, held from April 2-6. The goal was to maximize energy efficiency within the framework of real-world vehicle standards. After passing rigorous inspections, teams competed to achieve the most efficient lap, with scoring based on electricity consumed. This competition provided an opportunity to tackle engineering challenges related to energy sustainability and vehicle design, all while prioritizing driver safety.

Tire Spray Station Design Improvement

Members: Justin Dresbach
Alex Houser
Arie Lowe
Weston Manske
Aaron Pike
Conner Underwood

Advisor: Gurudutt Chandrashekar, Ph.D.

Sponsor: BF Goodrich

This project, a collaboration between BFGoodrich Tires and Trine University students, aims to improve tire spray patterns while maintaining barcode readability. Currently, identification issues are corrected manually, but BFGoodrich plans to automate the process. The team developed an on-campus prototyping device for testing modifications. Design work was led by Conner Underwood and Justin Dresbach, electrical and computational by Arie Lowe and Aaron Pike, and manufacturing and testing by Weston Manske, Alex Houser, Conner Underwood, and Justin Dresbach.



From left, Justin Dresbach, Weston Manske, Arie Lowe, Alex Houser, Conner Underwood. Not pictured: Aaron Pike.

Wright Brothers Wind Tunnel Balance Display

Members: Jayce Conner
Colin Crumrine
Andrew Henderson
Brayden McGuire
Zachary Norris
Kyle Stoller

Advisor: Gurudutt Chandrashekar, Ph.D.

Technical Advisor: James Kamm, Ph.D.

Sponsor: Indiana Space Grant Consortium

This project involved designing, analyzing, and constructing a historically accurate 1901 Wright Brothers lift balance. It also included refurbishing a wind tunnel for Science Central Museum in Fort Wayne and creating a propeller balance, digital force balance, and 6-tube manometer for Trine Aero Lab. The goal was to teach kids basic aerodynamics and how wind speed affects lift and drag. Through prototypes, the team explored airflow effects on airfoils and gained hands-on experience with aerodynamic principles using the lab equipment they built.



From left, Zachary Norris, Colin Crumrine, A.J. Henderson, Kyle Stoller, Jayce Conner, Brayden McGuire.

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TRINE UNIVERSITY

PROFESSIONAL SOCIETY — STUDENT CHAPTERS

Alpha Eta Mu Beta (National Biomedical Engineering Honor Society)

Advisor: Maria Gerschutz, Ph.D.

President: Hannah Bodrie

Vice President: Kaden Senetra

Secretary: Kristin Baker

Treasurer: Emily Wahl

Alumni Rep: Sadie Edsall

Student Rep: Jessica Bailey

Alpha Eta Mu Beta is the national biomedical engineering honor society for the top biomedical engineering juniors and seniors in the department. The society recognizes the academic achievements of students and promotes excellence in the field of biomedical engineering. The Trine chapter has tutored younger generations of biomedical engineers, recognized and supported the local healthcare industry and prepared accoladed biomedical engineering students for their future endeavors.



American Foundry Society

Advisor: Darryl Webber, Ph.D.

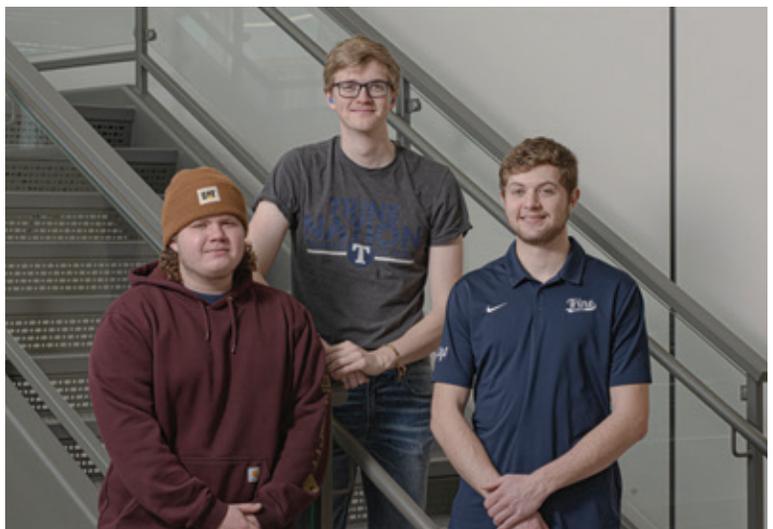
President: Hayden Smith

Vice President: Dakota Carter

Secretary: Nickolas Uhler

Treasurer: Rhett Laud

The Trine University Materials Society is a combined student chapter of the American Foundry Society and Material Advantage, which incorporates membership in the Materials Information Society (ASM); the Minerals, Metals, and Materials Society (TMS); American Ceramic Society; and the Association for Iron and Steel Technology (AIST). These professional organizations seek to promote research and knowledge in the area of material science and engineering design. Student members actively participate in meetings with their professional counterparts, host technical presentations from working engineers and scientists, and open the foundry laboratory to the Trine community for foundry nights. Many students in the Materials Society are also involved in FEF, which was established to assure a continuing supply of engineers for the metal casting industry through scholarship programs. FEF acts as an interface between students and industry to promote internships, cooperative educational opportunities and full-time employment. It provides funding for laboratory equipment, travel to professional meetings, and industrial tours.



American Institute of Chemical Engineers (AIChE)

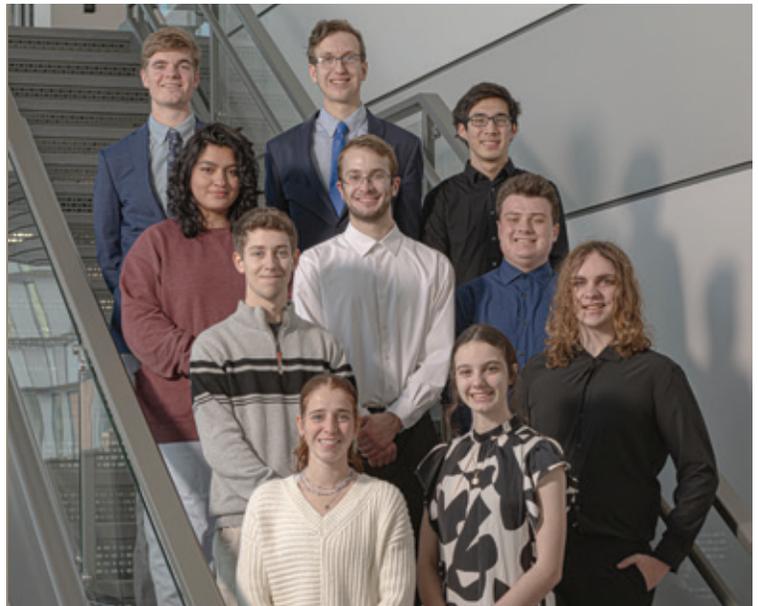
Advisor: Jacob Borden, Ph.D.
President: Caitlyn Glitsch
Vice President: Noah Glassman
Secretary: Ethan Wehr
Treasurer: Lauren Swiggum
Social Media Manager: Cole Schmidhuber
Student Govt. Rep: Isaac Braun
JR Class Rep: Cullan Jackson
SO Class Rep: Ethan Davis
FR Class Rep: Jacob Oakley



AIChE is a global professional association of more than 50,000 members that provides leadership in advancing the chemical engineering profession. Its members are creative problem-solvers who use their scientific and technical knowledge to develop processes and design and operate plants to make useful products at a reasonable cost. AIChE fosters and disseminates chemical engineering knowledge, supports the professional and personal growth of its members and applies the expertise of its members to address societal needs around the globe. This past year, members of Trine's AIChE student chapter attended the regional and national conferences to compete in both AIChE Jeopardy and Chemical Engineering Car competitions. In addition to organizing plant tours and hosting guest speakers on campus, the Trine student chapter sponsored fall and spring picnics for the Chemical Engineering Department. As a part of our commitment to encouraging the pursuit of chemical engineering and strong community relations between the student body and the community, the local chapter has participated in college visit days, the Steuben County Regional Science Fair and Introduction to Engineering Day.

American Society of Civil Engineers (ASCE)

Advisor: Professor TJ Murphy
President: Annalise O'Daniel
Vice President: Lainey Somers
Treasurer: Logan Hooley
Corresponding Secretaries: Brody Fox
Chloe Hilvers
Professional Outreach Manager: Abigail Marks
Conference Manager: Dillan Cooper
Freshman Class Representative: Nico Munoz
Sophomore Class Representative: Luke Weintz
Senior Class Representative: Fatima Rodriguez
Recruitment Manager: Braeden Alfred
Community Outreach Manager: Blake Dulle
Safety Officer: Matthew Beckmann



The American Society of Civil Engineers is America's oldest national engineering society, having been chartered in 1852. Trine University's chapter has been in existence since 1965, aiming to "provide an environment where students can learn about and enhance the civil engineering field while networking with peers, professionals, and the community." In the pursuit of these goals, ASCE student members participate in a wide range of activities. One signature project is the concrete canoe competition, where students can apply engineering principles and practice team and project management skills. ASCE also strives for professional development via guest speakers with local professional civil engineers and field trips such as the Ohio Constructor for a Day event and the annual ASCE Indiana Section meeting. Additionally, service projects such as Adopt-A-Highway, surveying projects, design work and school outreach allow the organization to promote civil engineering while giving back to the community.

American Society of Mechanical Engineers (ASME)/American Institute of Aeronautics and Astronautics (AIAA)

Advisor: Jon Koch, Ph.D.

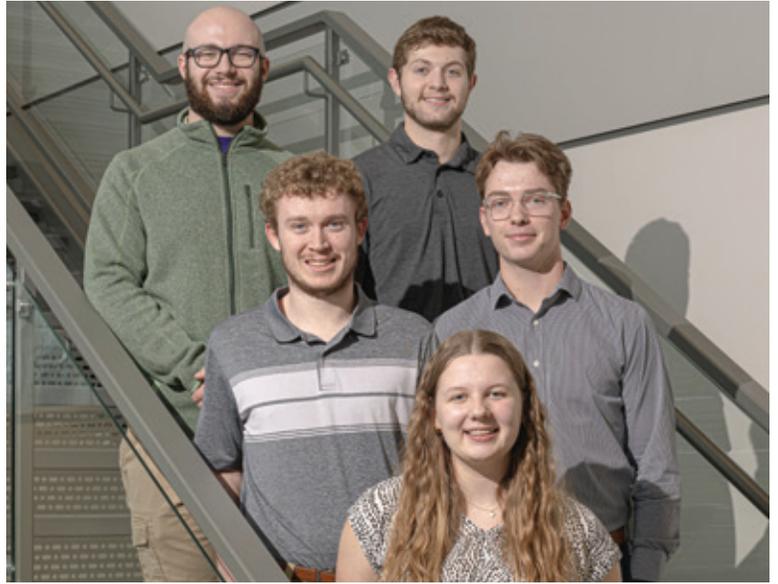
President: Noah Thompson

Secretary: Ian Young

Treasurer: Dakota Carter

Student Govt. Rep: Jack Thies

With 120,000 mechanical engineers and mechanical engineering students as members, ASME offers quality programs and activities in mechanical engineering, enabling its practitioners to contribute to the well-being of humankind. Originally chartered by the national governing body in 1971, the Trine University section has a current membership of approximately 50 students. The section usually meets once a month and attends two regional conferences per year. In addition, the section sponsors miscellaneous activities such as design competitions, special speakers and plant tours throughout the year.



The American Institute of Aeronautics and Astronautics (AIAA) is dedicated to the advancement of the aerospace sciences. Membership is open to all engineers, scientists and other professionals who have an interest in aerospace. The Trine University Student Branch of AIAA has been continuously active since 1940, when Dr. James Doolittle and Maj. Leslie Green visited campus to approve the aeronautical program for membership to the Institute of Aeronautical Sciences (IAS).

Biomedical Engineering Society (BMES)

Advisors: Maria Gerschutz, Ph.D.,
Max Gong, Ph.D.

President: Kaden Senetra

Vice President: Gretchen Culler

Secretary: Annabel Stanley

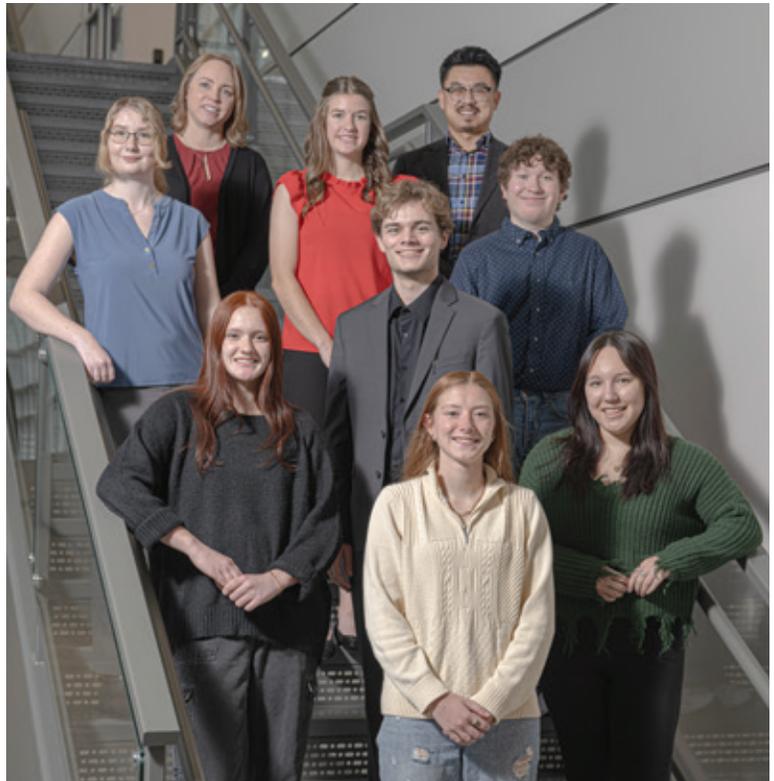
Treasurer: Griffin Rothenbuhler

Student Rep: Jessica Bailey

Social Media Chair: Ayana Ihara

Conference Chair: Kristin Baker

The vision of the Biomedical Engineering Society (BMES) is to serve as the world's leading society of professionals devoted to developing and using engineering and technology to advance human health and well-being.



Computer Science Society (CSS)

Advisor: Wendy Yagodinski

President: Anthony Hentz

Vice President: Brock Taulbee

Treasurer: Michael Nawrocki

Secretary: Ryan Brown

Events Coordinator: Mason Bledsoe

The Computer Science Society (CSS) was established in 2021. The CSS allows like-minded university students to interact in a social, non-demanding environment while broadening their technology skills and developing expertise that will help them become leaders in the world of technology. The society is working toward a greater public recognition of the club by providing campus and community outreach to make them aware of computer science and information technology industry and academic trends.



Engineers Without Borders (EWB-USA)

Advisor: Tim Tyler, Ph.D., P.E.

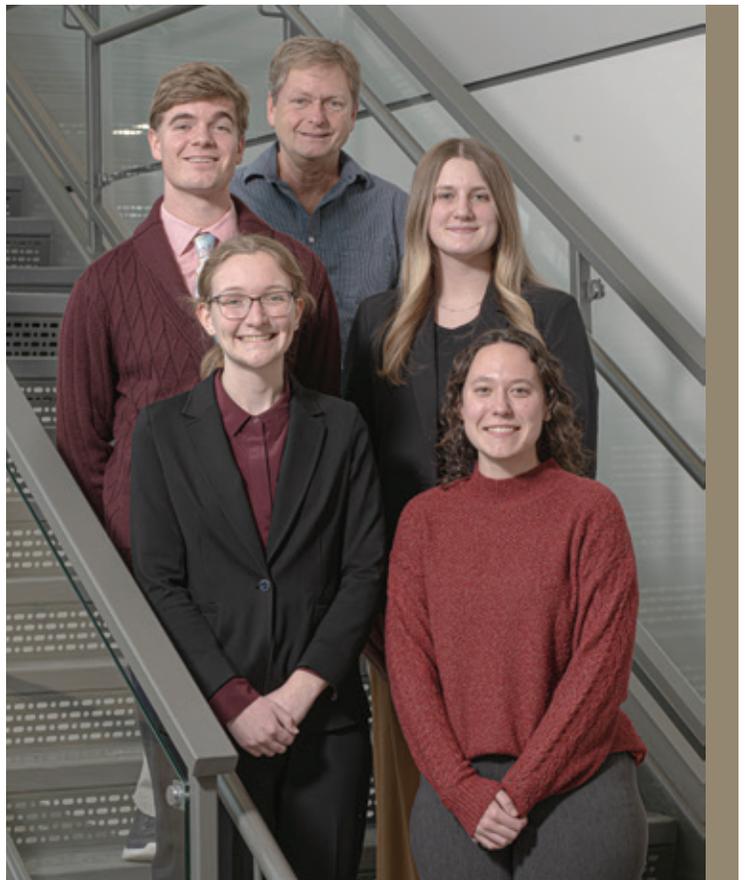
President: Madison Ruen

Vice President: Evan Holman

Secretary: Livia Montgomery

Projects Chair: Hannah Sibery

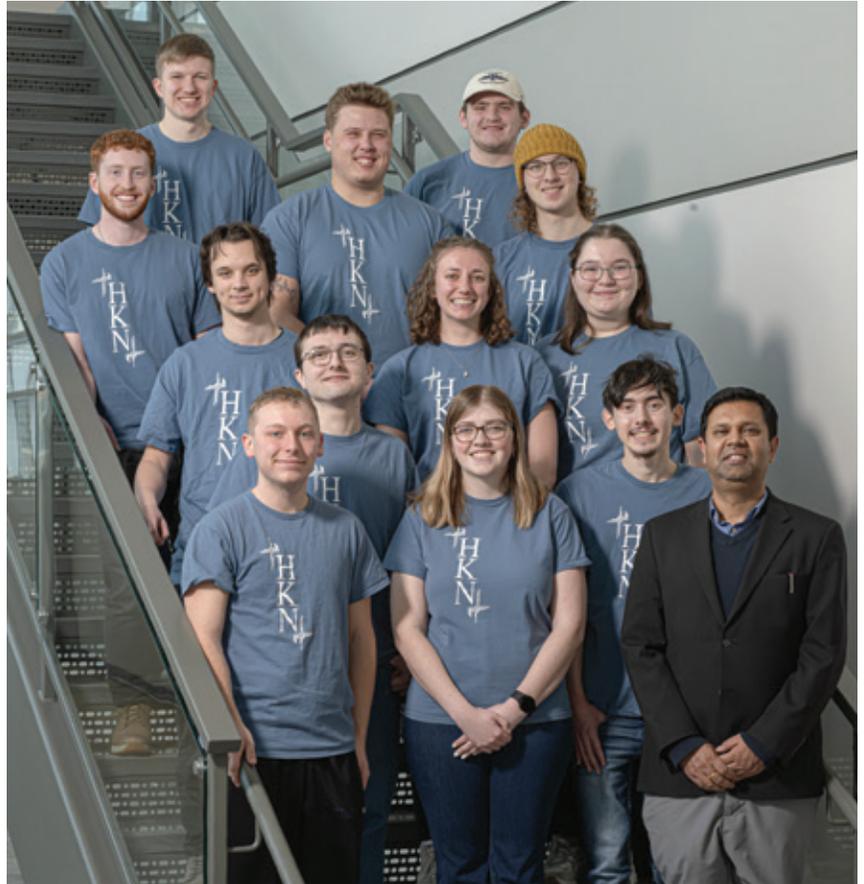
EWB-USA is an international non-profit organization that partners with communities around the world to meet their basic human needs. The Trine University student chapter of EWB was founded in 2014 and recently completed a water supply project for a rural village in the Andes mountain range of Ecuador. This community gets all of their drinking water from springs, but the springs often run very low or dry out during the dry season. Students from the Trine chapter have visited the community several times over a five-year period and constructed several water catchment systems to improve the water supply. These systems greatly increased the water supply for the community, and the project was successfully completed. The Trine EWB chapter is starting a new water supply project in Tuntatacto, Ecuador, and is planning a visit to the community in the summer of 2025.



Eta Kappa Nu (HKN) (Electrical and Computer Engineering Honor Society)

Advisor: Mahesh Khadka, Ph.D.
President: Francesca Queary
Vice President: Shane Wood
Secretary: Caden Daffron
Treasurer: Olivia Cunningham
Student Govt. Rep: Colten Edgar

The Zeta Phi chapter of Eta Kappa Nu (HKN), the honor society for Electrical and Computer Engineering students, was established at Trine University in 1975. The chapter is dedicated to encouraging and recognizing individual excellence in education and admirable work in professional practice, and in any of the areas within the electrical and computer engineering fields of interest.



FACT

Advisors: John Liu, Ph.D.,
Joe Thompson
President: Aylee Rupert
Vice President: Arie Lowe
Secretary: Olivia Cunningham
Treasurer: Alex Kratzer
Outreach Director: Matthew Edison

The mission of FACT is to inspire a new generation of K-12 students to pursue STEM, business, and community outreach events, to support Indiana FIRST® mentors & volunteers; and to develop a professional network of FIRST supporters/volunteers at Trine University. The vision of FACT is to transform the culture at Trine University by creating a family that promotes FIRST's impact and fosters skills students can gain to best prepare them as leaders in science, technology, and business.

Furthermore, FACT strives to keep previous FIRST alumni, and any other Trine student who may be interested, engaged in developing their robotics experience by working hands-on to design, build, program, wire, and test actual robots. FACT is based on the core values of family, community outreach and engagement, innovation, and professionalism.



Institute of Electrical and Electronics Engineering (IEEE)

Advisor: Sean Carroll, Ph.D.

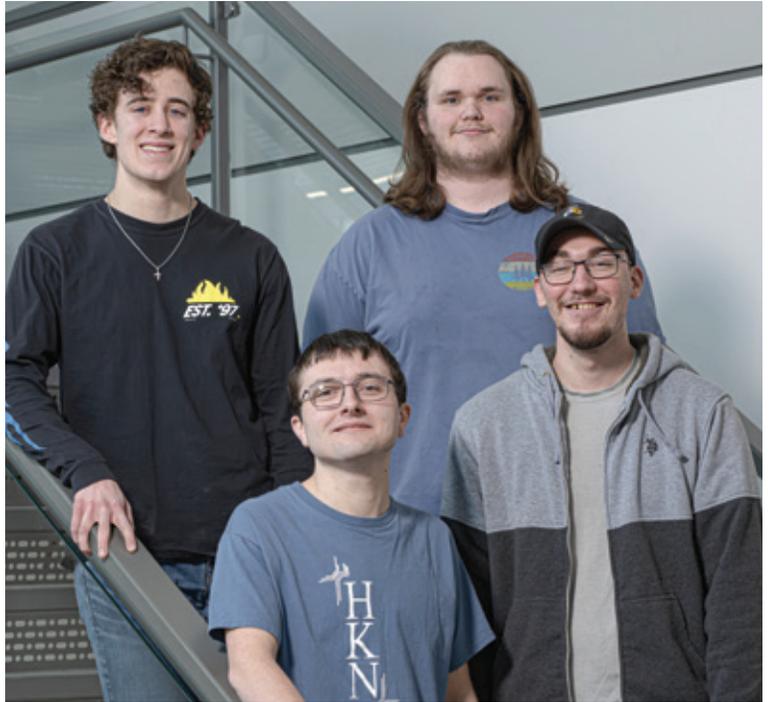
Branch Chair: Shane Wood

Branch Vice-Chair: Taylor Cussen

Branch Secretary: Ian Fruchey

Branch Treasurer: Matthew Bourgoin

The IEEE promotes the engineering process of creating, developing, integrating, sharing and applying knowledge about electrical and information technologies and sciences for the benefit of humanity and the profession. The student branch tutors, travels, listens and competes to sharpen the interests and skills of Trine electrical and computer engineering students through interaction with industry and between more- and less-experienced students.



Institute of Transportation Engineers (ITE)

Advisor: Hemin Mohammed, Ph.D.

President: Ryan Gienger

Vice President: Sophie Aschemeier

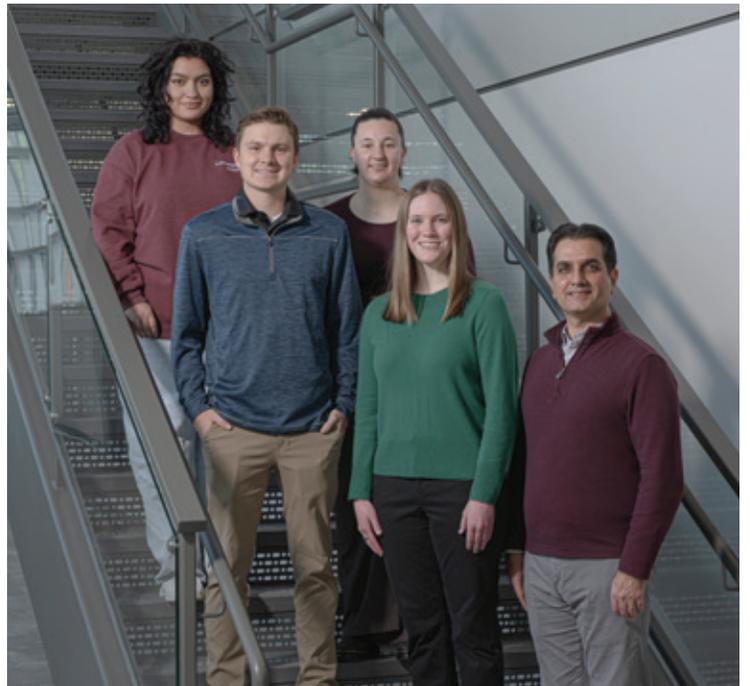
Treasurer: Fatima Rodriguez

Secretary: Erin Downing

Social Chairperson: Sydney Kalinger

The Institute of Transportation Engineers (ITE) is an international organization comprised of transportation professionals responsible for meeting mobility and safety needs. ITE promotes the application of technology and scientific principles to research, planning, functional design, implementation, operation, policy development and management for all modes of ground transportation.

Trine University's ITE student chapter (TITE), established in 2013, aims to highlight the significance and excitement of the transportation engineering field. Each year, the chapter participates in the annual Traffic Bowl competition, where they compete against other students from Indiana, Michigan and Ohio by answering transportation-related questions in a Jeopardy-style format. Additionally, the student chapter attends several conferences each year, including the Purdue University Road School and the ITE Great Lakes District Annual Meeting, where they attend technical sessions and collaborate with professional engineers.



Omega Chi Epsilon (Chemical Engineering Honor Society)

Advisor: Amanda Malefyt, Ph.D.
President: Lydia Randolph
Vice President: Natalie Crowner
Treasurer: Alyssa Keptner
Secretary: Taylor Early
Mugmaster: Madison Ruen

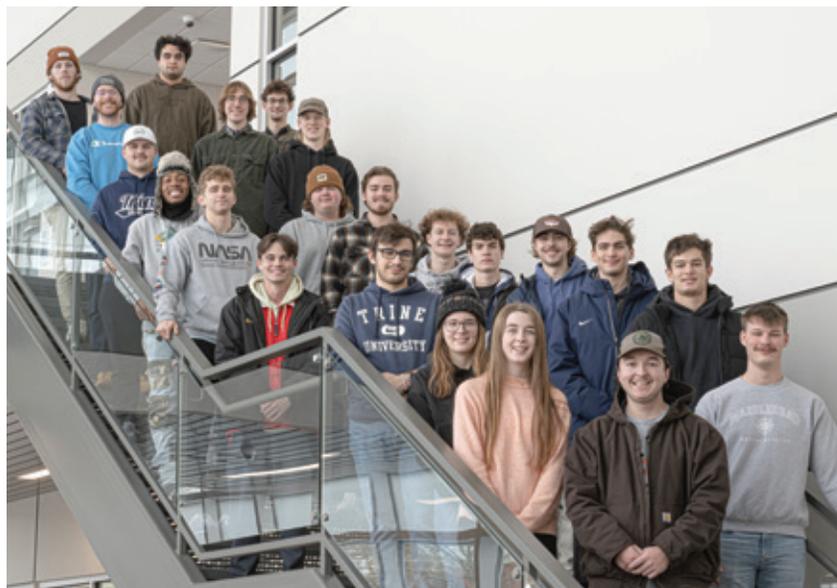
Omega Chi Epsilon is the honor society for chemical engineering. The Society promotes high scholarship, encourages original investigation in chemical engineering and recognizes the valuable traits of character, integrity and leadership. The Trine chapter (Alpha Nu) hosts the McKetta birthday celebration and department Homecoming activities along with various STEM outreach events.



SME

Advisor: Jarred Finnerman
President: Owen Tong
VP/Student Gov't Rep: Matthew Jimenez
Treasurer: Braden Duncan
Secretary: Carson Carteaux

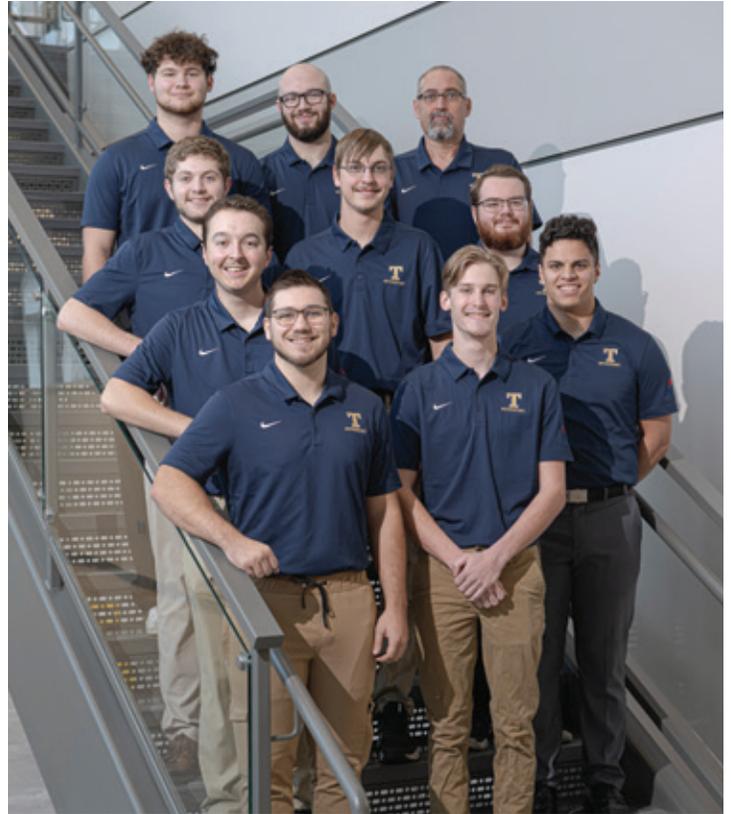
SME has a rich and evolving heritage spanning more than 80 years. We serve the manufacturing industry as a nonprofit by promoting advanced manufacturing technology and developing a skilled workforce. Since its inception in 1932, SME has worked to make engineers, companies, educators and others successful in their quest to advance manufacturing industries in the United States. The Trine University SME student chapter, S280, currently has 20 student members. Chapter members attend plant tours and expert presentations from local manufacturing companies. Some of the field trips have included visits to GM Powertrain (Defiance, Ohio), Steel Dynamics (Butler, Indiana) and Caterpillar (Lafayette, Indiana).



Society of Automotive Engineers (SAE)/ Thunder Motorsports Club

Advisor: John Liu, Ph.D.
Co-Advisor: Joseph Thompson II
President: Dominique Vidal
Vice President of Motorsports: Michael Ledyard
Vice President of Business Affairs: Dakota Carter
Secretary: Connor Betts
Treasurer: Gavan Davis
Student Govt Rep: Jack Thies
Shop Manager: Josh Arnt
Marketing Manager: Kyle Smith
Event Coordinator: Cory Davis

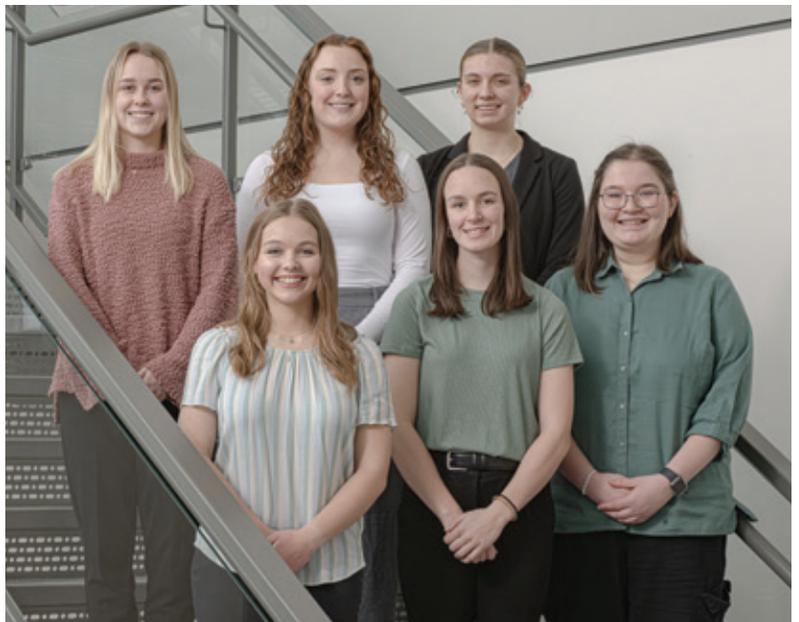
Trine SAE International, also known as Thunder Motorsports, is a group passionate about automotive engineering, cars, and racing. The club participates in events such as racing education and club-sponsored activities with its electric go-cart and 2006 Honda Civic. The group comes from a variety of backgrounds, talents, and ages, but all members share a passion for the automotive industry. Whether it is all-electric, classic internal combustion, or something more unique, our members are interested in learning more. TSAE is also an official chapter of the SAE Internationals, a prestigious worldwide organization that binds together mobility professionals, technical experts, and students.



Society of Women Engineers (SWE)

Advisor: Roberta Gagnon
President: Abigail Hansen
Vice President: Taylor Early
Secretary: Sarah Ryan
Treasurer: Olivia Ward
Social Media Officer: Katie Walcutt
SWE Conference Coordinator: Allison Korpi

The Society of Women Engineers (SWE), founded in 1950, is a not-for-profit educational and service organization. SWE empowers women to succeed and advance, and to be recognized for their contributions and achievements as engineers and leaders. The Trine University student section of SWE provides networking opportunities for students pursuing degrees in engineering, technology and science. Activities include guest speakers, attending career fairs, plant trips and outreach activities to encourage K-12 students to pursue technical degrees. For more information, contact gagnonr@trine.edu.



Tau Beta Pi – The Engineering Honor Society (TBP)

Advisors: Jon Koch, Ph.D.

Andrea Mitofsky, Ph.D.

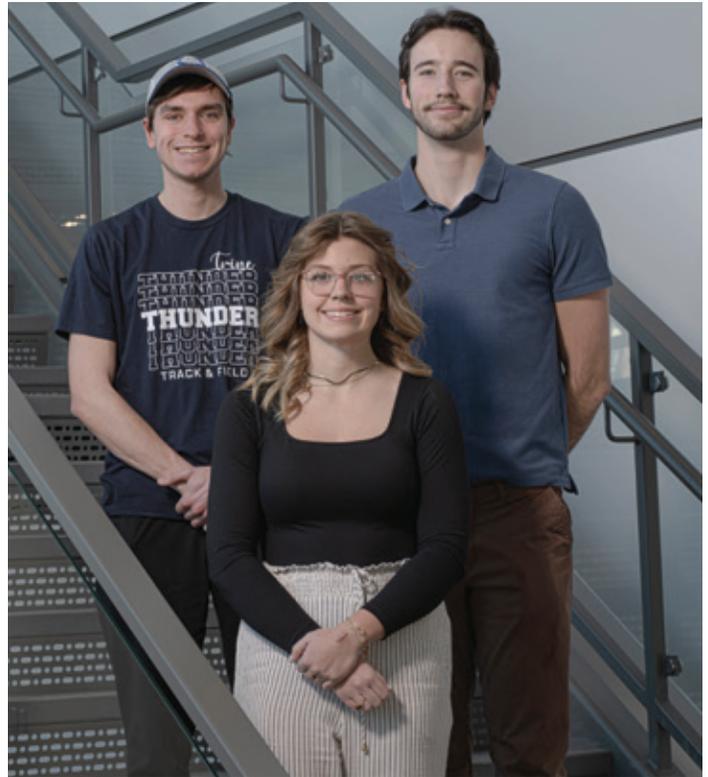
President: Ryan McDonald

Vice President: Matthew Edison

Corresponding Secretary: Alexandra German

Recording Secretary: Allison Korpi

Tau Beta Pi is the only engineering honor society representing the entire engineering profession. It is the nation's second-oldest honor society, founded at Lehigh University in 1885 to mark in a fitting manner those who have conferred honor upon their alma mater by distinguished scholarship and exemplary character as students in engineering, or by their attainments as alumni in the field of engineering, and to foster a spirit of liberal culture in engineering colleges. In order to be eligible for membership, one must be in the top one-eighth of the junior engineering class or the top one-fifth of the senior engineering class at their university. There are now collegiate chapters at 251 US colleges and universities in 16 districts across the country, and a total initiated membership of approximately 622,148. Trine University's Indiana Epsilon chapter was founded on February 22, 1975.



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ACKNOWLEDGEMENTS

On behalf of the students, staff and faculty of the Allen School of Engineering and Computing, we would like to extend our deepest gratitude to all the individuals and organizations who contributed to the tremendous success of our 23rd annual Design Expo. Special thanks to the following for their gracious support:

Jason Blume, Assistant Vice President, innovation1

Steve Faramelli, Creative Media Specialist, University Marketing and Communications

Wendy Kipfer, Campus Scheduling Coordinator, Camps and Conferences

Melissa Lafferty, Career Coach and Liaison for Allen School of Engineering and Computing, and Co-op Program Manager, Career Center

Dean Orewiler, Creative Multimedia Specialist, University Marketing and Communications

Lydia Roop, Marketing and Communications Coordinator, University Marketing and Communications

Chuck Stommel, Assistant Director of Event Services

James Tew, Assistant Vice President for Content and Communications, University Marketing and Communications

Kate Van Gordon, Catering Manager, Bon Appétit Management Company

Nick Wentworth, Campus Operations, Assistant Director of Campus Operations

Thank you!

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