



USF 2025  
Engineering Expo  
Visitor Guide

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# Bus

OR

## 2. Bruce B. Downs Blvd & USF Pine

From Bruce B. Downs (southbound), turn LEFT onto USF Pine Drive and follow the road via a slight left. Stay on the rightmost lane and turn RIGHT onto USF Alumni Drive, then turn LEFT onto USF Magnolia Drive



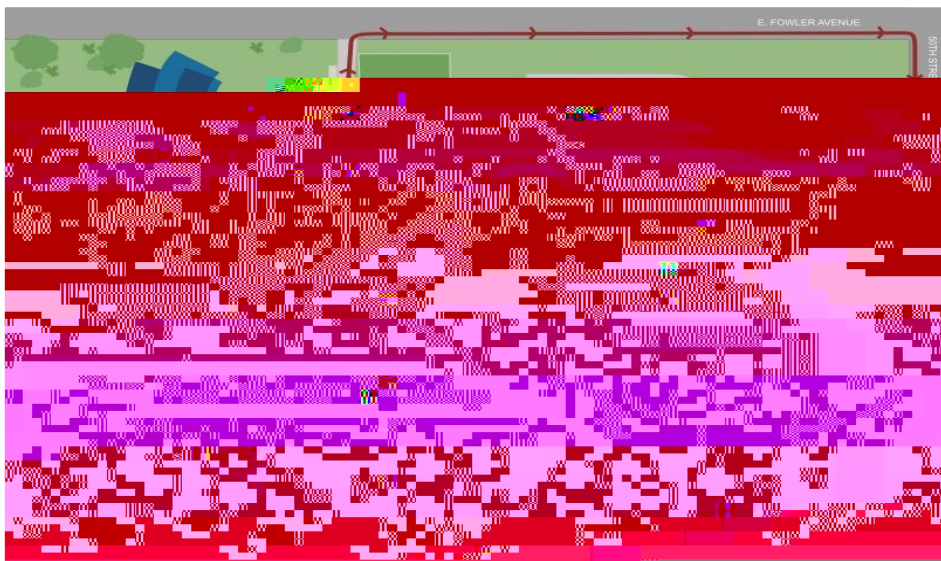
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After dropping off students at USF, buses will be able to park at the MOSI parking lot which is accessible via 50<sup>th</sup> Street until the allotted pickup time at 4PM and 2PM on Friday and Saturday, respectively.

From Fowler Avenue (Eastbound), turn RIGHT onto 50<sup>th</sup> Street until the first available right to enter MOSI, then turn RIGHT into the MOSI campus, and follow the road until the first available right, following the road all the way down to the parking lot closest to 50<sup>th</sup> street.

- The most immediate parking lot visible when turning onto the MOSI campus from 50<sup>th</sup> street will be where the buses park.
- Rush hour traffic should be factored for Friday when picking students up.

Please consult the map below for further details.



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# Exhibitors

We are very excited about our exhibitors! This year, we will have more than 40 organizations showcasing their experiences and projects in the STEM field.

This is the list of exhibitors registered for the USF 2025 Engineering EXPO, and a description of their exhibits:

1. **Alpha Sigma Kappa** - A spin-off of the game of life: Life with ASK. Kids will get to spin the wheel to win a prize/snack while learning about the organization and how it is STEM centered.
2. **American Association of University Women (AAUW) in Engineering at USF** – The AAUW will have a photo career booth that will allow participants to dress up as what they would like to be when they grow up. Anyone can take a picture which they can take with them as a souvenir!
3. **American Institute of Chemical Engineers (USF AIChE)** - This exhibit will include 6 stations, (1) Making and explaining the creation of dry ice bubbles, (2) creating propane fire bubbles, (3) a flaming reaction between heated gummy bears and potassium chlorate within a test tube, (4) an interactive exhibit with a cornstarch based non-Newtonian fluid, (5) a liquid nitrogen based ping pong ball explosion, and (6) an exhibition of the USF AIChE's ChemE-Car (a nation-wide chemical engineering competition) submission with a demonstration of the chameleon clock reaction used in the competition. The flammable aspects of the exhibit will be demonstrated behind a temporary fence,

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with the non-Newtonian fluid being the only interactive exhibit. The ping pong ball explosion will occur every 30 min/1 hour depending on the flow of viewers and will consist of over pressurizing a 2-L bottle filled partly with liquid nitrogen within a storage drum; the exhibit is

prosthetic hand. We will go through what skills we used to create it and the process of making it. We will also allow students and visitors to use and interact with the prosthetic hand.

8. **Brain Computer Interface Club** - Our exhibit features an innovative Unity simulation of a car in motion, paired with a real-world RC car controlled using a brain-computer interface (BCI) headset. Visitors will witness the fascinating ability to move the car simply by thinking, showcasing hosting an interactive event where attendees can use electromyography (EMG) devices to engage in fun mini-activities, offering a hands-on experience with cutting-edge muscle-signal technology. This exhibit highlights the exciting potential of mind-machine interaction in gaming, robotics, and beyond, making it a must-see for tech enthusiasts of all ages.
9. **Bulls Racing (Society of Automotive Engineers - SAE)** - As in previous years, our exhibit will feature a controlled demonstration of our Formula SAE car in Lot 8B. The course will be designed for low-speed operation, and the driver will strictly adhere to conservative driving guidelines to ensure the highest level of safety, particularly given the presence of younger children. A clearly marked safety perimeter with caution tape will be established to keep spectators at a safe distance. Bulls Racing will implement comprehensive safety measures, including fire extinguishers and other necessary emergency equipment. Additionally, we will have a display table featuring legacy components from our team, allowing attendees to safely explore and learn more about our student organization and the engineering behind our race car.

## 10. Center for Urban Transportation Research - Information

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20. **GameDev Club** - We are Partnering up with GoogleDev Club to make a scavenger hunt game that represents the School, our Club and

GoogleDev club.0000912 0 612 792 reW\*ñBT/F1 15.96 Tf1 0 0 1 186.65 684.46 Tm0





30. **Middleton High School** Our booth will showcase the innovative projects of our engineering students. Visitors can experience an interactive game featuring robots built and programmed by our students, combining fun with technical ingenuity. Additionally, we will feature a variety of engineering-themed displays that highlight how science and engineering impact our daily lives. Each display will be presented and explained by our students, offering an engaging opportunity to learn from the next generation of engineers.
  
31. **National Society of Black Engineers** - We will have a demonstration of a liquid Sand Box where we send pressurized air into a box of sand, so that the sand then behaves like a liquid. Our second demonstration is going to be of a volcano. Our last demonstration will be a balloon of Oobleck to demonstrate a non-Newtonian fluid in a safe and clean way.
  
32. **ProstheX** We will showcase the environmentally adaptive prosthetic foot which is designed to adjust to different terrains, providing users with enhanced stability and comfort. It incorporates adaptive materials and

visitors on basic engineering principles and media design. Because we also represent River Ridge High School, it's common for us to give information on the programs at our school.

34. **Robobulls** = Robobulls student members will showcase their mobile robots and AI-driven autonomous systems. Attendees will see live demonstrations of Robobulls' soccer-playing robots. The club will also have a demonstration of

their characters move on the board. Different challenges unlock different moves/paths, and the goal is to beat the challenger to the finish line!

37. **Society of Hispanic Professional Engineers (SHPE)** - The Society of Hispanic Professional Engineers (SHPE) fosters a sense of community and empowerment for Hispanic engineers, promoting diversity and inclusion within the STEM fields. By hosting a K-12 activity centered around Hispanic-themed board games, SHPE engages younger students in a fun, culturally relevant way while introducing them to engineering concepts. These activities not only highlight the rich cultural heritage of the Hispanic community but also stimulate creativity and critical thinking, essential skills for future engineers. At the engineering expo, this approach enhances engagement by making STEM both accessible and exciting for a broader audience, particularly underrepresented groups in the field.
38. **Society of Women Engineers** - This exhibition will showcase a variety of hands-on engineering experiments, each representing different engineering disciplines. These activities will allow visitors to explore concepts such as chemical engineering, mechanical engineering, electrical engineering, and more. Students from various engineering majors will demonstrate projects related to their specific field of study, offering insight into the practical applications of their disciplines.
39. **SPACHeS Lab** - Our exhibit aims to improve sleep practice for high schoolers and undergraduate students. We will explain the importance of sleeping and different wearable devices that can track your sleep. We will invite the audience to participate in our Sleep Awareness Survey.



