RANKEN
TECHNICAL COLLEGE

2022 SUMMER ADVENTURE ACADEMIES (10th Annual)
Online registration begins March 2, 2022
Registration fee: $95

Week 1 – Middle School Camps - For Rising 6th, 7th, and 8th Graders
July 11-15, 2022, 9AM to 3PM (St. Louis Location)

All A-Bot Robots – Robots may be the future of technology, and they are definitely fun to make and program! Students will develop their engineering and technology skills using NXT robots, gears, motors, and sensors while building a robot to maneuver through an obstacle course.

Advanced Robotics – Designed for students who have prior robotics experience through Ranken's *All A-Bot Robots* camp or participation on an FLL team. Campers will design & build robotic accessories (arms, grippers, etc.) using the TETRIX Prime building set, and control autonomous robots by remote control.

Aviation Technology – Students are introduced to all things aviation, from learning how planes and rockets fly to preparing for careers in the aviation and aerospace fields. Scheduled activities include a visit to a modern aircraft maintenance facility, glider and drone flying, water rocket launch, flight simulator training and an actual aircraft flight. Students will be equipped to develop their interest in aviation through referrals to local and national organizations that provide additional aviation STEM opportunities.

Design and Engineering – Campers will learn manufacturing processes from blueprints and design to prototype production and quality control. Explore how your idea can come to life with Mastercam and SOLIDWORKS software. Experience state-of-the-art Computerized Numerical Control (CNC) machines.

Heavy Metals – Use raw metal to create your own designs! Students will learn the fundamentals of welding, from simple techniques to more complex ones. Students will design and fabricate their own metal masterpiece.

Summer Racers – Want to know how a real race team works? Our summer racers will build their own car, practice team building skills, and learn about automotive careers. Students will learn how a go-kart works, how to use tools, how pit stops win a race, and how to drive a real go-kart safely!

Website Design – Learn how to design your own website and present your ideas to the world! Interactive web activities will engage each student in the popular fundamentals of web design, using HTML, Cascading Style Sheets (CSS), JavaScript, and Bootstrap.

Wood Works – Design it and build it! Students will construct their own project from start to finish using a variety of woodworking and power tools. This program will familiarize students with fundamental construction techniques, shop and safety skills, and provide them with fun, constructive entertainment.

Week 2 – Middle School Camps - For Rising 6th, 7th, and 8th Graders
July 18-22, 2022, 9 AM to 3 PM (St. Louis Location)

Rolling Robots - Learn coding with fun activities using Sphero, the round robot. Create programs to guide Sphero through challenging obstacle courses and routines utilizing tablet technology. Find your future in programming and app development in this unique camp.

Summer Racers – Want to know how a real race team works? Our summer racers will build their own car, practice team building skills, and learn about automotive careers. Students will learn how a go-kart works, how to use tools, how pit stops win a race, and how to drive a real go-kart safely!

Week 2 – Middle School Camps - For Rising 6th, 7th, and 8th Graders
Wentzville Location

All A-Bot Robots – Robots may be the future of technology, and they are definitely fun to make and program! Students will develop their engineering and technology skills using NXT robots, gears, motors, and sensors while building a robot to maneuver through an obstacle course.

Scratch Programming - Students will learn how to load Scratch Programming onto their own machines and create Scratch programs using their browser. Scratch will run in most current web browsers on desktop or laptop computers. Students will complete hands-on projects in class. In addition, students will receive hyperlinks to all completed projects and instructions on how to load them onto their own machines if/as desired. Please be aware that Scratch has limited capabilities on tablets and does not work at all on cell phones.

Week 2 – High School Camps - For Rising 9th and 10th Graders
St. Louis Location

Design and Engineering – Campers will learn manufacturing processes from blueprints and design to prototype production and quality control. Explore how your idea can come to life with Mastercam and SOLIDWORKS software. Use state-of-the-art Computerized Numerical Control (CNC) machines and 3D printing.

Heavy Metals – Use raw metal to create your own designs! Students will learn the fundamentals of welding, from simple techniques to more complex ones. Students will design and fabricate their own metal masterpiece.

TETRIX Robotics Technology – Build your own robot and apply engineering design principles while expanding your technical building and logical thinking skills. Learn programming design and how input/output devices can affect the behavior of a robot. A robotic challenge will test your skills.

Women in Engineering - Experience the fun and excitement of solving engineering challenges on a team of like-minded young women. Discover how you can use your unique talents to find satisfaction in engineering.

Week 2 – High School Camps - For Rising 11th and 12th Graders
St. Louis Location

Adventures in Architecture – Experience architecture and the built environment through designing, sketching, drafting, and model building. Get hands-on experience with laser cutting & computer aided drafting.

Week 2 – High School Camps - For Rising 9th and 12th Graders
Perryville Location

Heavy Metals – Use raw metal to create your own designs! Students will learn the fundamentals of welding, from simple techniques to more complex ones. Students will design and fabricate their own metal masterpiece.

LEARN MORE **www.ranken.edu/adventureacademy**