AAUW TechSavvy
Fort Atkinson | Janesville

Student Hands-on Workshops (Choose 3)

Technology: Electronics
Flash and Buzz Circuitry
Kat Ray, Software Developer, Yahara Software

Learn about the components that make your electronic devices do what you want them to. Get your own kit to create circuits that make LED lights flash and buzzers wail in response to touch, light sensors, resistors, capacitors, and a variety of switches. The kit includes ten different projects that increase in complexity to offer you interesting challenges. The components are reusable so you can continue to learn and experiment as you disassemble and recreate new circuit projects after the workshop.

Kat Ray is a software developer at Yahara Software, a Madison-based consulting firm that works with clients across many industries to create custom software solutions for their business needs. Kat's current project is an application for biology research labs that specialize in cellular regenerative medicine. She is passionate about STEM outreach and education, and volunteers with organizations that aim to increase minority representation in tech fields. Her free time is usually spent rock climbing, jogging, cooking, crocheting, reading, or listening to podcasts.

Biology: Veterinary Medicine
Fetal Calf: Gender Reveal
Dr. McKenzie Hendricks, DVM, Broken Bow Animal Hospital

Do you love animals and think you might want a career in some field of veterinary medicine? Here's your opportunity to explore the career of a large animal vet. In this session, you will observe the stages of bovine pregnancy within the cow reproductive tract. You will learn about the reproductive organs, dissect tissues, determine the age of an in-utero fetus, and determine if it is a male (bull) or female (heifer) calf. Join this session to learn about a career as a veterinarian.

Dr. McKenzie Hendricks is a beef cattle veterinarian and owner of Broken Bow Animal Hospital in Broken Bow, Nebraska. She graduated from Iowa State University with a Doctor of Veterinary Medicine degree. As a large animal veterinarian, Dr. McKenzie particularly enjoys bovine reproduction medicine, embryo transfer technologies, neonatal calf care, beef cattle production medicine, and teaching the next generation of veterinarians. Outside of work, McKenzie enjoys ranching with her husband, traveling, and spending time with her pets.

Forensic Science
Bust Crimes with Technology
Detective Erin Johnson, Janesville Police Department

You've probably seen detective shows and movies, but do you really know how technology and science are used to solve crimes? Do you have what it takes to be a crime scene investigator? Jump into an investigation to find and gather evidence using technology to unravel a crime scene. Law enforcement works closely with the crime lab to analyze evidence including fingerprints, shoeprints, firearms, DNA, blood stains, tool impressions, and more. Experience it firsthand!

Detective Erin Johnson is a crime-solving enthusiast with a knack for cracking the toughest cases. Specializing in crime scene investigation for the past seven years in Janesville, she is dedicated to bringing justice to the community by uncovering the truth. Detective Johnson graduated from the University of Wisconsin–Platteville with a major in criminal justice and a minor in forensic investigation. Let's work together to make our communities safer! In her free time, she enjoys home renovation projects.

Chemistry
Science of Tie-Dye Fashion
Dr. Jessica Bonjour, Associate Professor, Chemistry, UW–Whitewater

Get ready to embark on a colorful adventure where chemistry and style collide! Join us in this workshop in which you'll produce a unique t-shirt by forming permanent covalent chemical bonds using fiber-reactive dyes. Discover more chemistry secrets in this perfect fusion of science and clothing design!

Dr. Jessica Bonjour teaches chemistry courses for non-science majors as well as courses in organic chemistry. She has also held various leadership roles on campus including the Science Outreach Coordinator, the General Education Coordinator, and Department of Chemistry co-chair. She grew up in a town of less than 2,000 in central Missouri before going to Truman State University for her undergraduate degree and UW–Madison for graduate school. When not on the UW–Whitewater campus, she works with an area cat rescue as a kitten foster.

Biology: Genetics
Wear Your Genes!
Dr. Kirsten Crossgrove, Genetics and Molecular Biology, UW–Whitewater

Experience the thrill of extracting your own DNA! In this session, you will isolate deoxyribonucleic acid (DNA) from your cheek cells, as well as from strawberries and/or bananas, and watch it form visible white strands as it precipitates out of a solution. You will collect the strands in a tube that you'll string on a necklace to take home. Along the way, you'll learn about the beauty of the DNA structure and how its structure relates to its function.

Dr. Kirsten Crossgrove has taught Genetics and Molecular Biology at UW–Whitewater since 2004. She majored in biology and neuroscience at Oberlin College, a small liberal arts college in Ohio, where she was first introduced to molecular biology and the study of how genes work. She was instantly hooked. She completed a Ph.D. in Molecular Biology at the University of Pennsylvania in Philadelphia. Now she gets to teach and do research which keeps her excited to learn more about how genes direct the development of complex organisms like us.

Biology: Medicine
Surgical Intern for a Day
Dr. Christine Chuppa, OB/GYN, Fort HealthCare
Dr. Molly Larson, OB/GYN, Fort HealthCare
Dr. Elizabeth Lynk, OB/GYN, Fort HealthCare

Medicine is the ultimate helping profession. You may help to bring a new life into the world or save another life from ending. In this workshop with "a peel," you will scrub and gown up for surgery, place sutures on a banana, and perform a local injection and biopsy of an orange. You will learn sterile techniques and surgical skills under the guidance of physicians at Fort Healthcare Center for Women's Health. Join us for a close and revealing peek into the world of medical careers.

Dr. Christine Chuppa is a graduate of UW–Madison and interned at St. Luke's Hospital, Kansas City. She enjoys caring for women throughout every stage of life. She is interested in obstetrics, minimally invasive surgery, infertility, and cancer screening/prevention. Her interests included teaching residents, nurse practitioners, medical students, and presenting health topics to the community. She also enjoys spending time with her family, photography, scrapbooking, church activities, quilting, and playing the violin.

Dr. Molly Larson graduated from The College of William and Mary in Williamsburg, VA, and the University of Colorado–Denver School of Medicine. She completed her residency at Saint Joseph Hospital in Denver. She is interested in the broad scope of women's health. In her practice, she is proud of the lasting relationships she can build with her patients. In her spare time, Dr. Larson enjoys spending time with her family and two dogs. She also enjoys running, and cycling, and is an amateur bread baker.

Dr. Elizabeth Lynk is an obstetrician and gynecologist dedicated to promoting women's health. Dr. Lynk attended Northwestern University and Feinberg School of Medicine. She completed her residency at Saint Joseph Hospital in Denver. She enjoys educating patients about their health concerns and helping them find the right plan of care. She loves OB/GYN because it allows her to be present for important events in her patients' lives. Outside of work, she enjoys spending time with her family, running, hiking, camping, and traveling.

Civil Engineering
The Dam Challenge
Emily Harrison, Senior Project Lead Engineer, JT Engineering, Inc.

Become a member of the Splash Engineering Firm to design and build a dam for Mucky Waters County as you explore the principles of physics required to keep water in its place. The force of water helps determine the size and shape of dams. Water pushes against the side of a dam with a certain amount of pressure and the dam wall must push the water back with an equal amount of force to hold back the water. Learn about four types of dams and how engineers decide how large or strong a dam must be to do the job.

Emily Harrison earned a Bachelor of Science degree in Civil Engineering from UW–Platteville. Emily works as a Senior Project Engineer for JT Engineering, Inc., a transportation engineering firm. She has worked in transportation construction for over ten seasons and has experience on structures projects and mega projects including USH 151 and the IH 39 corridor. She is a member of the Society of Women Engineers, and the American Society of Civil Engineers. She also mentors young women at UW–Platteville who want to pursue careers in engineering.

Chemistry
Bath Bomb Science
Jeren Sexton, cGMP Operator and Nuclear Engineer, SHINE Technologies

Here's your chance to apply engineering principles and acid-base chemistry to create the perfect recipe for super impressive bath bombs. Create bombs with varying proportions of acids, bases, and salts. Then conduct scientific experiments to discover how quickly the reactants create carbon dioxide (CO_2) in each sample. In the process, you'll discover the optimal mixture to create an ideal, long-lasting, fizzy bomb. You'll be able to use your recipe to make more bath bombs at home.

Jeren Sexton is a Texas native. She graduated from Texas A&M University with a degree in nuclear engineering and a minor in radiological health engineering. One of her favorite things about nuclear science is the diversity of career opportunities in the field. At SHINE she has contributed to projects as diverse as fusion power and cancer treatment. In her free time, Jeren loves spending time with her Mini Aussie, Boudreaux, and solving the daily New York Times crossword puzzle.

Chemistry
Intermolecular Forces: Solutes and Solvents
Dr. Kimberly Naber, Lecturer, Chemistry Department, UW–Whitewater

Imagine the world around you on the molecular level and discover how chemistry explains it all! In this session, you will create a "density bottle" and amaze your friends and family with what you'll be able to tell them about the connection between chemical structure, solubility, and density. Experiment with the quantity of a solute that can be dissolved in a solvent and learn about the intermolecular forces that make it all possible.

Dr. **Kimberly Naber** was born and raised in southern Wisconsin. An early interest in learning and teaching led her to a career teaching chemistry at UW–Whitewater where she had studied chemistry earlier as a student. She earned her Ph.D. at UW–Madison studying the chemicals in the nervous systems of crabs. Kim loves animals and lives on a nearby farm.

Parent Sessions
(Choose 3)

Career Opportunities in Science
Dr. Kris Curran, Department of Biological Sciences, UW–Whitewater

The list of science careers is long and diverse. Ask questions and get suggestions for talking with your teen about fitting their passion into a possible career in science. Learn how a strong science education can open doors to other seemingly unrelated career areas including business, fine arts, journalism, technology, and engineering.

Dr. Kris Curran is a professor at UW–Whitewater in the Department of Biological Sciences where she teaches Introductory Biology, Cell Biology, and Developmental Biology. She conducts research in the development of circadian rhythm during early frog development. She is also a musician and finds that music makes a nice counterpoint to thinking about science. She also is an avid runner, swimmer, and bicyclist.

Career Opportunities in Mathematics
Dr. Hayley Bertrand, Ph.D., Department of Mathematics, UW-Whitewater

A degree in mathematics will open doors in many career areas. In addition to the more obvious careers such as math teachers, researchers, and business-related careers, a strong math education enables students to become meteorologists, software test analysts, actuaries, or market and investment analysts. Ask questions and get suggestions for talking with your teen about fitting their math skills into various STEM careers.

Dr. Hayley Bertrand is a professor of mathematics at UW–Whitewater. She does research in pure mathematics. While she teaches a variety of classes, she especially enjoys teaching students studying to be math teachers. Hayley grew up in northeastern Wisconsin and graduated from St. Norbert College. She earned her M.A. and Ph.D. from Indiana University. Her hobbies include reading, hiking, gardening, baking, and interior design.

What Are the Differences among Engineering Specialties?
Brittany Noe, Project Manager, IPEC

Civil, industrial, mechanical, biomedical, mining, electrical, aerospace…the list is long. Learn about the many and varied careers in engineering. What do professionals in these careers do? Where are the job opportunities? Ask questions and get suggestions for talking with your teen about engineering careers.

Brittany Noe graduated from UW–Madison in 2012, in Biological Systems Engineering with an emphasis in Food and Bioprocess Engineering. She is a mechanical engineer and has been working at IPEC (Integrated Process Engineers & Constructors) for over ten years where she is now a Project Manager. IPEC specializes in customized process systems for the food and pharmaceutical industry. While at the university, Brittany participated in the WISE Program (Women in Science & Engineering), as well as in Engineers Without Borders.

What's All the Chatter about Students Using AI?
Lopa Mukherjee and Hien Nguyen, Department of Computer Science, UW–Whitewater

Does the topic of artificial intelligence (AI) leave you bewildered or a bit fearful? Then this is the session for you. Observe an AI tool in action. Learn about the power and potential issues related to AI technology. Receive guidance in talking with your students about AI and their schoolwork. How can they maintain academic integrity, verify information, and balance the use of AI tools with the development of essential academic skills?

Lopa Mukherjee is an Associate Professor in Computer Science at UW–Whitewater. She graduated with a Ph.D. in Computer Science from the University of Buffalo. She works in machine learning and computer vision and has been teaching for the last 15 years. She lives in Madison with her husband and kids. She likes to try out new recipes in her spare time.

Hien Nguyen is an Associate Professor in Computer Science at UW–Whitewater. She works in Information Retrieval. She lives in Madison with her family.

The Value of STEM Careers
Quentin Prince, Program Manager, MKE Hour of Tech

Learn more about the "T" in STEM and the impact of technology within the vast array of STEM careers and other career tracks and clusters. Tech touches everything! Explore career opportunities, job titles, tasks, expected earnings, job availability, and educational requirements.

Quentin Prince is a dedicated educator based in Milwaukee, known for his passion and commitment to advancing STEM education. With a belief in the transformative power of science, technology, engineering, and mathematics, he has dedicated much of his career to fostering a love for these disciplines among students. His innovative teaching methods and teaching style create an engaging learning environment, inspiring students to explore the exciting world of STEM.

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