

Camp Instructors and Staff

Aida Bermudez, STEM Camp Director

Dr. Michelle Smith - How does probability impact our daily lives?

Dr. Kelly Watson - How do land use history and environmental conditions influence biodiversity?

Dr. Stephen Richter - How do land use history and environmental conditions influence biodiversity?

Dr. David Brown - What technologies allow us to track and study animal movement?

Dr. Haley Cabaniss - How does karst influence Kentucky's landscape?

Mr. Houston Glass - What does it take to fly a plane?

Dr. Judith Jenkins - Could we power this with sunlight?

Dr. Jamie Fredericks - What happened here?

Dr. Shuangteng Zhang - How can you use a suspect's computer to recover important clues for solving a crime?

Dr. Jason Fry - How can we see particles and sound?



For more information, visit our website

go.eku.edu/stemcamp

or email us at

stem@eku.edu

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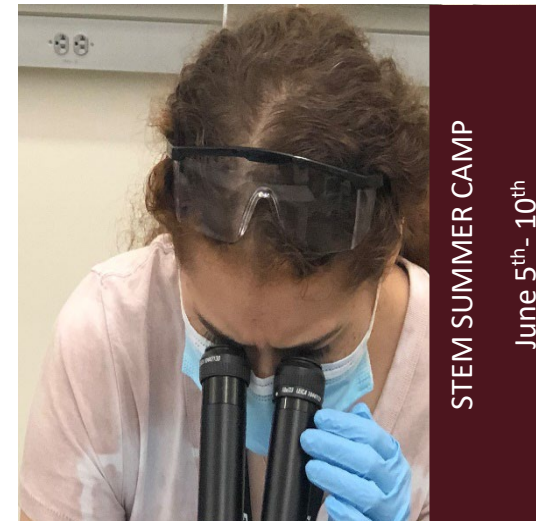
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STEM SUMMER CAMP

June 5th - 10th



EKU

COLLEGE OF SCIENCE, TECHNOLOGY,
ENGINEERING, & MATHEMATICS

Eastern Kentucky University

521 Lancaster Ave.

Science Building 1228

Richmond, KY 40475

859-622-1405

go.eku.edu/stemcamp

STEM!

Summer Camp
June 5 – 10, 2022

Our residential STEM Summer Camp is designed to provide our campers with a preview of what it would be to be a college student. They will participate in STEM hands-on activities, talk to different offices in the University, and be part of fun team building activities.

- 5-day residential camp at Eastern Kentucky University's Richmond Campus. Open to all **rising high school juniors and seniors**.
- Camp sessions will be held in the Science Building and Whalin Complex.
- Apply online for **free** starting March 28, 2022. Applications will be accepted until April 29, 2022. Visit <https://application.eku.edu/register/stemcamp22> for requirements which include a short essay and teacher recommendation.
- \$50 registration fee if accepted. Scholarships covering remaining camp costs are provided for all who are accepted.
- In addition to the STEM activities, information sessions on college majors, application process, financial aid and scholarships, and career options will be offered.

For more information about our **STEM Summer Camp**, including registration information, visit go.eku.edu/stemcamp.



TOPICS, ACTIVITIES, SESSIONS

How does probability impact our daily lives?

Probability impacts our daily lives. From making weather forecasts to setting insurance rates to playing our favorite games, probability helps us understand the random events in the world around us. Join us as we use probability-based strategies to see if we can help you win at casino-style games. Can you beat Vegas or are the odds truly stacked against you?

How do land use history and environmental conditions influence biodiversity?

Land-use changes such as urbanization impact our natural environment. Streams and ponds are home to a diversity of organisms, many of which are sensitive to pollution in the water. Join us as we test water quality to look for evidence of how changes in the landscape affect aquatic biodiversity.

What technologies allow us to track and study animal movement?

Conservation of wildlife requires understanding how animals use space. Recent advances in how wildlife biologists study animal movements is transforming our knowledge of basic ecological processes of wildlife and leading to new ideas for improving conservation. In this activity students will learn how to collect and process animal movement data using emerging technologies.

How does karst influence Kentucky's landscape?

Karst-related disasters are expected to become more prevalent. Find limestone, test it with HCl, and check out some of the sinkholes. Learn about the impacts of climate change, urbanization, groundwater/surface water interactions and water quality.

What does it take to fly a plane? Use the FAA-approved Gleim X-Plane Flight training course paired with the ultra-realistic X-Plane Flight Simulator software to fly planes. As each lesson is completed, the course will guide you through over 1,000 tasks, step-by-step guidance, corrective feedback, and post flight evaluation.

Could we power this with sunlight? Solar cells provide clean energy to homes and buildings, but currently, solar cells have to be mounted to structures that support their weight and keep them from bending. What if we could put solar cells into anything—like fabrics, backpacks and tents, curtains and car upholstery, or any 3D-printed structure? Join us as we investigate new materials for flexible solar cells so that one day, we'll be able to power anything with sunlight.

What happened here? Physical evidence such as fingerprints, fibers, broken glass, blood stains, and controlled substances can all be used to reconstruct a crime scene. Students will collect evidence from a crime scene and then analyze this evidence using microscopic, chemical, and instrumental techniques to draw conclusions about the possible presence of multiple suspects at a crime scene.

How can you use a suspect's computer to recover important clues for solving a crime?

Computers often hold many secrets that a suspect would not want law enforcement to know during an investigation. Many criminals think they are protected from their secrets being exposed if they simply delete the data or encrypt it. Find out how FBI and local law enforcement alike can expose all the secrets criminals think they have successfully destroyed or hidden.

How can we see particles and sound? Particles from the cosmos are flying through our planet every moment, but we never see them. We will see cosmic particles swirl through clouds created with the help of very cold dry ice. We will observe muons and neutrinos as they pass through materials that produce light. Finally, we will be able to enjoy the sounds of music not only by hearing it but seeing the vibrations it makes through air with lasers.