STEAM Sessions

Faculty and staff from the campus of ETSU will be sharing their expertise on STEAM topics on Friday, November 8. The STEAM acronym includes the subjects of Science and Social Studies, Technology, English and Engineering, Art, and Mathematics.

1. Topic: Pneumococcal Infection and Antibiotics (Dr. Alok Agrawal)

   Description: This presentation will explore the limitations of antibiotics and future directions for novel treatment strategy for Streptococcus pneumoniae infection.

2. Topic: EagleCam, Birds & Other Wildlife (Dr. Fred Alsop)

   Description: This presentation will explore the four years of the EagleCam Project, how it began and what we are doing now. Dr. Alsop will talk about being an ornithologist and seeing birds around the world, and about local wildlife in East Tennessee.

3. Topic: Learning with LiiNA: Learning through Interactivity Intelligently with Accountability

   (Mr. Arnab Chakraborty)

   Description: This presentation will explore the story of LiiNA as well as the sensory integration module (SIM), virtual reality, and accountability aspects of LiiNA.

4. Topic: Chemistry: The Breakfast of Champions (Dr. Cassandra Eagle)

   Description: This presentation will focus on foods that are consumed at breakfast time and the chemistry behind them. This will be a hands-on presentation where students explore characteristics of different breakfast foods and then learn how to understand the chemistry behind the observation. The questions you will be able to answer include:

   *How can you tell a hard-boiled egg from a raw one and what causes the different observations?

   *How can you tell a fresh egg from a rotten one and what causes the difference?

   *How can you tell tea with lemon from tea without lemon and why lemon makes a difference?

   *What is the chemistry behind a piece of toast being brown?

   *Why do pancakes rise and have bubbles in them?

5. Topic: French or Foe: How to Navigate Cultural Dexterity (Dr. Karen Harrington)

   Description: To discuss with students the importance of cultural dexterity and, more specifically, how it can help us understand and appreciate French culture and social mores as well as gaining a better understanding of French cultural references.

6. Topic: Advanced Patterns in Elementary Math (Dr. Anant Godbole)

   Description: A variety of examples will be provided to illustrate advanced patterns in elementary math.

7. Topic: Afoot in the South: Long Distance Trails of the Southeast United States

   (Dr. Scott Honeycutt)

   Description: While many of us are familiar with the Appalachian Trail (AT), you may be surprised to learn that the AT is just one of many long distance trails that weave throughout the Southeast. Dr. Honeycutt's talk will introduce students to other paths that can be walked for health and transcendence.

8. Topic: Finding Your Voice in Poetry (Dr. Jesse Graves)

   Description: This presentation will be an introduction to the range of material we cover in Creative Writing classes at ETSU.

9. Topic: What's Up in Space? STEAMing ahead with NASA (Dr. Lori Meier)

   Description: In this session, I'll share an overview of What is Up in Space? and present a vision of what space exploration goals in 2020 and beyond might look like (i.e. living on Mars, returning to the Moon, new rockets, new rovers, historic NASA anniversaries, how to get involved, etc.) I'll incorporate various elements of the social studies, science, art, math, technology, and the humanities as it relates to NASA's past and future missions.

10. Topic: Acting Shakespeare is Outrageous! Playing the Bard for Beginners

    (Professor Herb Parker)

    Description: When I say that acting Shakespeare is 'outrageous,' I mean that it is great! As defined by Merriam Webster, it is also out of the ordinary, not conventional, or matter of fact—in short, fantastic. It's about getting actors on their feet to perform his plays. The very best way

to get started is the words themselves, speaking his text aloud—right now! Jumping in and exploring, having fun without obsessing or stressing about Iambic Pentameter! No experience is necessary. All you need to do is come ready to "play."

11. Topic: Using Code to Program Robots (Ms. Erica Preswood)

    Description: This session will explore a variety of coding programs and robots.

12. Topic: Our World of Data-Driven Experiences: The Intersection of Art and Science

    (Dr. Stephen Marshall and members of the ETSU Strategic Media Club)

    Description: According to futurists, 85% of the careers needed by the year 2030 do not exist yet. STEAM thinking allows you to "future-proof" your education. In this session you will learn how digital technology is reshaping every aspect of our lives both now and in the future.

13. Topic: What Is It Like To Work In The Video Game Industry? (Professor Gregory Marlow)

    Description: I have worked in the game industry on video games for the last 12 years. In this lecture, I talk about the various job positions and responsibilities of people who work in the video game production industry.

14. Topic: The Central Nervous System (CNS) and a Few Disorders that Affect the CNS

    (Ms. Virginia Fulton)

    Description: We will discuss the CNS while students build their own spinal cord with vertebrae, discuss the transmission of nerve signals through the CNS, demonstrate with an activity, then talk a little about Multiple Sclerosis (MS) and Amyotrophic Lateral Sclerosis (ALS) with activities to demonstrate the breakdown in the CNS for both of these. If time allows, there will be a discussion of the disruption in the CSN from spinal cord injuries demonstrated with an activity.

15. Topic: What Is Sport Science, and Why Should I Care? (Dr. Michael Stone, Ms. Meg Stone, and Mr. Kevin Carroll)

    Description: This presentation will provide an introduction to sport science and its contributions.

16. Topic: “New Technology, Old Fossils: 3D Scanning and Printing in Paleontology”

(Dr. Chris Widga)

Description: Learn how paleontologists are using 3D technology in research and education. This session will cover methods for acquiring 3D data (e.g., CT scans, photogrammetry) as well as the basics of 3D printing.

17. Topic: Native Plants Presentation (Mr. Sam Smith)

Description: Are you interested in plants? If so, you might already know that our region has a very fascinating variety of native plants and wildflowers! I am Senor Smith. I grew up in Johnson County, and I learned the names of many native plants from my father who was also very knowledgeable about plants that are edible. I will bring small samples of plants to show the group.

18. Topic: Topology and 3D Tic-Tac-Toe (Ms. Meg Robinson)

Description: Topology is an area of math that studies 2D and 3D objects and how they keep their essential properties when deformed by twisting, stretching, or crumpling. Learn more about 3D shapes, how to represent 3D shapes in two dimensions, and how to play games like tic-tac-toe in 3D.

19. Topic: East African Culture, Geology, and Wildlife (Mr. Josh Petty)

Description: Take a trip to Kenya and Tanzania with Coach Petty and learn about the Swahili language. He will explore the region’s vast geomorphology as well as its diverse wildlife while drawing upon his personal experience trekking through the Great Rift Valley.

20. Topic: Acting for the Camera (Professor Bobby Funk)

Description: An overview of the acting techniques used when acting on camera in film or television. Participants will have an opportunity to volunteer to take part in an on-camera acting exercise.

21. Topic: Why Engagement Matters at the College Level (Ms. Leah Adinolfi)

Description: This session will give students a taste of what it means to be involved in campus life, the opportunities available for students who choose to attend college and how students can maximize their experience and success once they enroll in higher education.