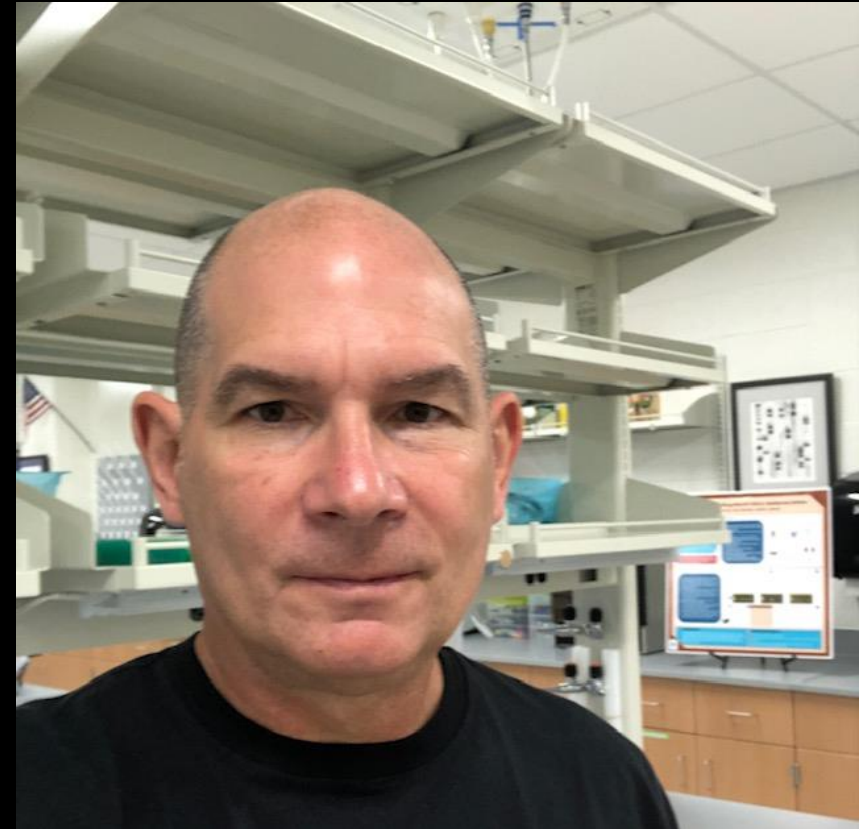


Biotechnology Applications

Innovation Academy STEM High School 2026-2027

Welcome!

- My name is Bob Kuhn, and I have been teaching for over 25 years.
- I have been at IA since the opening, and I formerly taught at Centennial High School.
- I teach the CTAE Biotechnology Pathway as part of Health Sciences. I also teach Biotechnology Research as a senior elective.



Biotechnology Applications Fall Semester

- The second year in the pathway.
- Students build on year one and learn new and advanced techniques.
- The semester starts with the sequel to our first-year project-based learning project theme which is antimicrobial resistance. Students will learn about bacteriophages as medicine and work to discover and isolate a new phage, and contribute to the phage library at the University of Pittsburgh.
- Students will also learn how to perform tissue culture of plants and create plant clones.
- We follow this up with a model drug discovery pipeline where protein isolation techniques are performed in the lab. Students will also learn about bioethics and bioprospecting with regard to discovering new medicines.

Biotechnology Applications Spring Semester

- In the spring we will learn how to clone a bacterial plasmid using advanced molecular techniques.
- We will also investigate qPCR to measure gene expression and perform a CRISPR experiment.
- Lastly, we will learn about industrial biotechnology and perform related experiments.

Assessment

- Learning and developing skills is emphasized in my classes.
- Major assignments will be submitted on Canvas as "Science Narratives", which will challenge students to tell evidence based stories from experimentation.
- Minor assignments are all submitted through Canvas and will incorporate lab and non-lab smaller assignments.
- Practice assignments are submitted on canvas or on paper and are meant to be low stakes way of assessing learning.
- There are no tests or quizzes.

Expectations

- We are in the lab almost every week. Safety is the biggest expectation in the lab, followed by being prepared.
- Lab preparation comes in the form of pre-lab reading and pre-lab instruction.
- Motivation, attention to detail, effort, and evidence of learning are expected.
- The focus is less on what I want, and instead how the student shows me what they learn and understand.

Communication

- Students are the first line of communication. They can reach me in person most days before school in room 223 or 224.
- Students and parents can email me at Kuhn@fultonschools.org
- I also have tutoring hours on all Flex Fridays before the first session.
- Please let me know if you have any questions or see the syllabus on your student's Canvas.