January 2020

Biotechnology Academy

News about a Career-Technical Education Program from the Six District Educational Compact

Nick Ciancio, Cuyahoga Falls, uses a microscope.

Sa'Sha Holmes, Roosevelt, conducts a lab experiment.

Laboratory experiences give students marketable skills

Biotechnology Academy features lab experiences. These labs give students marketable experience in the real-world lab science job market.

Labs completed during the first semester of the 2019-2020 school year include DNA extraction, mouse dissection, acid/base titration, microbiology techniques and culturing, chromatography, antibiotic selection, gel electrophoresis. Many more labs are planned for second semester.

Meet Mr. Gillahan

James Gillahan is the new instructor of the Biotechnology Academy. When he was in high school in Southwest Ohio, he participated in a biotechnology program at Centerville High School.

Then, Mr. G. attended Kent State University, where he obtained a bachelor's degree in Biotechnology. After his graduation from KSU, he went on to be a lab manager in a molecular genetics lab at The Ohio State University for two and a half years.

Mr. G. is committed to helping his students explore opportunities in biotechnology, medicine, microbiology, and genetics. Please direct any questions about the program to **jgillahan@woodridge.k12.oh.us**

Change to our name

Biomedical Science and Technology Academy is now called the Biotechnology Academy. Although students in the program will still continue to discuss many medical topics, the name was changed because the curriculum includes much more. Here are the courses, which are part of the Biotechnology curriculum.

Level 1
Anatomy and Physiology
Biotechnology
Intro Biochemistry/Organic Chemistry

Level 2
Molecular Biology
Bioinformatics
Biomedical Investigations

Six District Educational Compact
Cuyahoga Falls • Hudson • Kent • Stow-Munroe Falls • Tallmadge • Woodridge

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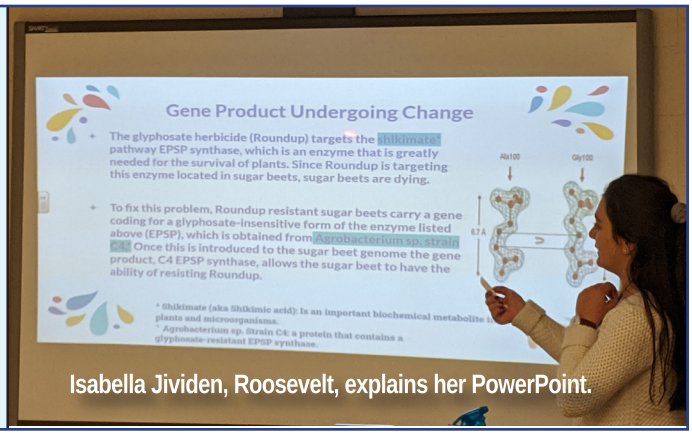
Projects students are working on this year

Biotechnology Academy students completed many projects during the first semester of the 2019-2020 school year. Some of these include presentations on biomedical engineering research, Nobel prize investigations and presentations, standard operating procedures, bacteria research, DNA modeling, bioethics, biomedical techniques, infectious diseases and the hallmarks of cancer.

Academy students also practice self-guided learning, group work and presentation skills, which are helpful skills for college bound students, as well as those entering the biotechnology workforce.



Isabella Jividen, Roosevelt, explains her PowerPoint.


Ryan Case, Woodridge, talks about Biotechnology with special education students from Woodridge High School.

Senior Capstone projects

Current Level II students in the Biotechnology Academy are currently working on background research for their Capstone projects.

As a class, they created stations for special education students at Woodridge High School to explain what biotechnology is as a career field. These Biotechnology students are working to design useful and effective tools to improve the lives of others in their school community.

Meet a completer

Elena Novak pursuing forensic science

Elena Novak, a 2019 Woodridge graduate and completer of the Biotechnology Academy, is a forensic science major at the University of Cincinnati.

Elena says, "Overall, I feel my experience in the Biomedical Science and Technology Academy prepared me greatly for college. I acquired many skills through the Academy that are transferable to college and have made my academic transition very smooth."

She continues, "I am grateful for the opportunities and education the Academy gave me and highly suggest future students to consider joining."

Genetics Update Conference

Biotechnology Academy students recently had the opportunity to hear **Sam Rhine**, a retired college professor and a traveling lecturer who spoke about the CRISPR genome editing tool, and current research on stem cells.

According to instructor **James Gillahan**, "The students enjoyed this mind-melting experience. It is not often that high school students get to experience an exciting college level lecture with topics that interest them."

What current students are saying

"Our class is really enjoyable. In our class. we are able to take information that we learn from notes and apply it in labs. We take field trips to learn about how the technology of the biotech field has evolved in the past couple of years and we learn a lot of information that can help future generations via biotech. "

"Just like any other program, you will need to put a lot of work and effort into it. However, both will pay off in the fun and experience you get from it. If you're considering a career in this field, you can get a lot of takeaway skills from this program. It's very beneficial for your future and makes these kinds of topics interesting to learn. "