

Mike Alvetro: Mr. Wizard-2008



“Mike Alvetro is one of the finest teachers with whom I have worked. “He motivates students to want to learn and possesses a genuine compassion for them. It is refreshing to see them excited about science. Students with an interest in a science career should explore the merits of Biotechnology Tech Prep.” Mary Flint-Supervisor of Biotech Prep

Mike Alvetro doesn't resemble Don Herbert. He was the star of the popular television show in the 1950's, but they have something in common. They make science come to life before an audience of approving fans. Herbert's show was prerecorded weekly; Alvetro performs live Monday through Friday.

Alvetro is currently in his fourth year at the Trumbull Career & Technical Center. He is the instructor for the Biotechnology Tech Program. This a two year course available to junior/senior students in Trumbull County schools. It is a college preparatory program designed to prepare students for post-secondary studies in the biological sciences and chemistry.



Students spend 2.5 hours each day in Biotech. They take courses required for graduation during the remainder of their day. These may be taken at the TCTC or at the home school. Most of the students in the program have career goals in the fields of medicine, pharmacy, bio-medical tech, forensic science and health/safety.

In the past two years, enrollment in the Biotech program has increased significantly. The word is circulating in Trumbull County that it is cool to learn in Biotech. Students have heard about the intensive hands on laboratory experiences that are the trademark of the program. Alvetro allows interested students to spend time in his classroom/lab so they can understand what the class is really like. They are intrigued to learn that if they complete the program with a “B” average or better they are eligible for 12 free semester hours of college credit in biology and chemistry.

Jobs in science related fields are the one aspect of our economy that is booming. This covers a broad spectrum that includes healthcare, agribusiness and biotechnology firms. In the state of Ohio there are more than 800 companies that employ individuals in science related capacities.

Alvetro’s educational philosophy is that students learn by doing. He devises scenarios where they put into practice what he is teaching them. He discussed one of the activities that he recently planned for the junior students. “They are given samples of DNA supposedly collected from suspects in a fictional murder investigation. Their task is to tell me, which suspect’s DNA matched the DNA left at the crime scene. This is just like the stuff they see on CSI.”

Alvetro has always found advancements in science to be exciting. He stated, “When I was told about the Biotech program at the TCTC, I could hardly believe such things were going in a high school. The content of the program goes far beyond what is normally covered in a typical science classroom and the technology available to the students is comparable to what they would experience in college.” The lab is stocked with

microscopes, computers and chemicals, but it also contains a spectrophotometer, equipment for DNA experiments and a thermal cycler to perform Polymerase Chain Reaction.

College professors have told Alvetro that freshman students are ill prepared to do things for themselves. “I keep that in mind when developing lessons and delivering instruction. Success in Biotech requires self-discipline and motivation. These are the same things that make a student successful in college and later in adulthood.”

Jacque Mikusvich, a senior from Niles, gives the program and its teacher a resounding thumb up. She said, “This is complex subject matter, but Mr. Alvetro makes it so easy to understand. There is a lot of work in the class, but it pays off. We are going to be a lot smarter than when we started. I enrolled because I want to become a doctor. After completing Biotech, I feel so prepared for the challenge of college.” She will attend Slippery Rock University next fall.

Joel Shaffer was home schooled before attending the TCTC. He said, “I have always enjoyed science and eventually, my career will be in the field of molecular genetics. After visiting the program, I said to myself, “This is the place for me. Where else could I receive a comparable education in science? Mr. Alvetro is a teacher with a special passion. When you ask him a question, he is glad to answer it. He is very knowledgeable, but he is also down to earth and makes class interesting for his students.” Shaffer will attend Ohio State University next fall.

The Biotechnology program is in its sixth year at the TCTC, but it has a very bright future. The challenges facing our nation of a scientific/technical origin are enormous. We must develop alternative sources of energy, we must produce affordable prescription drugs, and we must find a cure for cancer. It won't be the politicians, news media or the Hollywood celebrities who solve these problems. It will be the scientists.

The Chinese, Indians and the Koreans are making significant advances in state of the art technology. Unless we keep the pace, America will be a buyer not a seller in the world market. Programs like Biotechnology Tech Prep are the feeder systems producing the next generation of American scientists. To instructors like Mike Alvetro we say, “Teach our children well.” Our standard of living hangs in the balance.

Would you like to learn more about the Biotech Program at the TCTC?

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