

“Why the Greater Emphasis on STEM Education in West?”

By Don Snook, West High School Principal

Across the nation, and particularly Texas, there has been an increased focus on STEM (Science, Technology, Engineering, and Mathematics) education in our public schools. In Texas, select schools can apply to be a Texas STEM Academy, and in 2016, West High School was named one of these schools. What makes West unique in STEM implementation is that we are also a comprehensive high school, meaning we have thriving athletics, agriculture, academic, and fine arts programs while focusing on STEM applications.

Many people have asked me, “Why STEM? Why West?” and “We don’t need to force all students to be engineers.” I wanted to take the opportunity to answer these questions. As our students graduate and move into an ever changing workforce, they are increasingly asked to solve problems, gather and evaluate evidence, and make sense of information. They are also asked to learn to work together on tasks and become independent workers. In a STEM classroom, students work collaboratively in applying knowledge and skills, while researching to formulate solutions. We want our students in West to be competitive in any aspect of their lives – in the workforce and in college. You hear the administrative team saying, “We are a 3A school with 6A dreams.” We feel it is our responsibility to make sure that our students are prepared when they graduate to compete with students from all over the state, the nation, and the world.

In 2018, LinkedIn, a social networking site focused on the business world, amassed the top 10 ranking of most in-demand job skills. Not surprisingly, all ten spots were STEM-related skills. During the great recession that ended in 2009, STEM professionals were instrumental in saving our national economy; STEM jobs grew at double the rate of all other jobs (10.5 percent vs. 5.2 percent), while Texas experienced STEM growth of 15.6 percent.

So that begs the next question, “Why are we forcing our students to be engineers?” I cannot stress enough that we are NOT. We are focusing on STEM teaching strategies and having our students apply knowledge, not just regurgitate it. Stem teaching strategies include problem-solving real world situations, not made-up classroom problems. While we have added pathways in Engineering, Biomedical Sciences, and Computer Science, we are not taking away from our other electives. In fact, these new course offerings were developed after doing a survey of students for courses they would like to take. In Engineering, our students are using industry standard software applications in AutoCAD and in Biomedical Sciences, students are using the same equipment they will use in college or in a laboratory setting. Our students are learning Python in computer science, and next year we will begin the new Cybersecurity course. Our students will be equipped to handle any challenge that comes their way, and they will be on even footing with their larger school counterparts when they enter a classroom in college.

We have a thriving STEM program in our middle school through Project Lead the Way’s Gateway to Technology Curriculum. This year, we have been working hard to revamp the program to best meet the needs of the West learners, and we are excited to announce that we will have a STEM elective in 6th grade, 7th grade, and 8th grade for the 2019-2020 school year.

Believe it or not, STEM is present in all of our electives. Our theatre department has embraced the philosophy in the technical theatre program and often works with our engineering students for stage magic. Our art teacher frequently utilizes mathematics and science in her projects, visualizing graphs and charts through art. And never forget our award winning agriculture science program that utilizes STEM philosophies in manufacturing techniques and horticulture sciences.

STEM is a reality in the world we live in and it makes sense for our students to be prepared for the career challenges that will face them throughout their life. We want to make sure we continue to produce students who are not limited in their choices because of the size of their school. In honoring our legacy of excellence, we are preparing students for the future.