


STEAM Academy Major Descriptions

<p><u>Cybersecurity</u></p> <p>The cybersecurity major provides students with foundational knowledge and practical skills in protecting digital systems and information from cyber threats. Through a combination of classroom instruction, hands-on labs, and real-world simulations, students learn about cybersecurity principles, network security, cryptography, ethical hacking, and digital forensics. They develop critical thinking and problem-solving abilities as they analyze and respond to cyber threats and incidents. Upon completion, students are equipped for careers in cybersecurity, information technology, or further education in related fields.</p>	<p><u>Welding</u></p> <p>The welding major offers students comprehensive training in welding techniques and practices. Through a combination of classroom theory and hands-on experience in a workshop environment, students learn various welding processes such as MIG, TIG, and stick welding. They gain proficiency in reading blueprints, understanding metallurgy, and operating welding equipment safely. This program equips students with the skills needed for entry-level positions in industries such as construction, manufacturing, and fabrication, or further education in welding technology.</p>	<p><u>Automotive</u></p> <p>The automotive major provides students with hands-on training in automotive repair and maintenance. Students learn about engine systems, electrical systems, brakes, and more through a combination of classroom instruction and practical experience in a workshop setting. They develop skills in diagnostics, repair, and safety procedures, preparing them for careers in the automotive industry or further education in related fields.</p>	<p><u>Band</u></p> <p>The band major offers students the opportunity to develop their musical talents and passion for performance in a supportive and collaborative environment. Through regular rehearsals, students learn to play a variety of musical instruments. They also learn fundamental music theory and ensemble skills such as listening, timing, and blending with other musicians. The program culminates in concerts, competitions, and community performances, where students showcase their hard work and dedication. Additionally, participation in the band fosters teamwork, discipline, and self-expression, providing students with valuable life skills beyond music.</p>	<p><u>Chorus</u></p> <p>The chorus major offers students the opportunity to explore and develop their vocal talents in a collaborative musical environment. Through regular rehearsals and performances, students learn vocal techniques, music theory, and choral repertoire spanning various genres and styles. They develop skills in harmony, sight-reading, and ensemble singing, while also honing their musical interpretation and expression. The program culminates in concerts, competitions, and community performances, where students showcase their vocal abilities and passion for music. Participation in the chorus fosters teamwork, discipline, and self-confidence, while providing students with a lifelong appreciation for music and the arts.</p>
<p><u>Military Science</u></p> <p>The military science major offers students a structured curriculum focused on leadership, citizenship, and physical fitness, inspired by military principles. Through classroom instruction, physical training, and extracurricular activities such as drill teams and marksmanship, students develop discipline, teamwork, and self-confidence. The program may also include lessons on military history, government, and national security. While preparing students for potential military careers through programs like Junior Reserve Officer Training Corps (JROTC), it also instills valuable life skills applicable to various civilian paths.</p>	<p><u>Mechatronics</u></p> <p>The mechatronics major integrates mechanical, electrical, and computer engineering principles to provide students with a comprehensive understanding of automation and control systems. Through a combination of theoretical learning and hands-on projects, students explore topics such as robotics, pneumatics, hydraulics, sensors, and programming. They learn to design, build, and troubleshoot complex electromechanical systems, preparing them for careers in fields such as robotics engineering, manufacturing, automation, and maintenance. This program emphasizes problem-solving skills, creativity, and interdisciplinary collaboration, equipping students for the evolving demands of the modern engineering industry.</p>		<p><u>Theatre</u></p> <p>The theatre major provides students with a creative outlet to explore the world of performing arts through acting, directing, and technical production. Through a combination of classroom instruction, rehearsals, and performances, students learn the fundamentals of acting techniques, stagecraft, and theatrical design. They develop skills in character development, voice projection, stage movement, and improvisation, while also gaining practical experience in set construction, lighting, sound, and costume design. The program fosters collaboration, creativity, and self-expression, as students work together to bring stories to life on stage.</p>	<p><u>Visual Arts</u></p> <p>The visual arts major provides students with a comprehensive exploration of various artistic mediums and techniques, including drawing, painting, sculpture, ceramics, printmaking, and digital art. Through a combination of studio work, critiques, and art history lessons, students develop their technical skills, creativity, and artistic vision. They learn about the elements and principles of design, composition, color theory, and perspective, while also experimenting with different materials and methods of expression. The program encourages self-expression, critical thinking, and problem-solving as students create original artworks and develop their own artistic style.</p>
<p><u>PLTW Engineering</u></p> <p>Project Lead The Way (PLTW) engineering major offers students a hands-on, project-based curriculum designed to introduce them to various aspects of engineering. Through a series of courses, students explore topics such as design, robotics, computer-aided drafting (CAD), and principles of engineering. They engage in real-world problem-solving challenges, where they apply engineering principles to design, build, and test solutions. The program emphasizes critical thinking, collaboration, and communication skills, preparing students for further education or careers in engineering fields such as mechanical, electrical, civil, or aerospace engineering.</p>	<p><u>Education</u></p> <p>The education major prepares students for employment and post-secondary opportunities in the education field. The program provides instruction in the foundations of education, human growth and development, learning and environment, planning and instruction, collaborative relationships, and education and training career pathways. Technology and 21st Century employability skills are integrated throughout the course work.</p>	<p><u>Agriculture Horticulture</u></p> <p>The agriculture horticulture major provides students with a comprehensive understanding of plant science, cultivation techniques, and sustainable agricultural practices. Through both classroom instruction and practical experiences in greenhouses and outdoor gardens, students learn about plant biology, soil management, pest control, and crop production. They also gain hands-on experience in propagating, cultivating, and harvesting a variety of plants, including fruits, vegetables, flowers, and ornamental plants. This program prepares students for careers in horticulture, landscaping, agronomy, or further education in agricultural sciences.</p>	<p><u>Agriculture Plant and Animal Systems</u></p> <p>The agriculture plant and animal systems major provides students with a comprehensive understanding of both plant and animal sciences within the context of agriculture. Through a combination of classroom instruction, laboratory work, and hands-on experiences on farms or in agricultural facilities, students learn about plant biology, crop production, livestock management, and agricultural sustainability practices. They gain practical skills in breeding, feeding, health management, and handling of both plants and animals. This program prepares students for careers in various sectors of agriculture.</p>	<p><u>Construction</u></p> <p>The construction major offers students practical training in the entire range of residential and light commercial building techniques including estimating building costs, carpentry, cabinetmaking, residential wiring, blueprint reading, brick masonry, construction, building codes, and safety. Classroom knowledge is enhanced through multiple hands-on projects. Successful completion of program curriculum will provide students with the opportunity to become eligible for industry-recognized credentials and certifications.</p>