

Architecture & Construction Cluster

Students will have the opportunity to learn and develop employable skills with both mechanical drawing techniques and AutoCAD software. Students will use engineering and architectural curriculums to develop blueprint reading skills. Both courses (Mechanical & Architectural) offer two levels of instruction and opportunities to obtain certifications. The curriculum will utilize hands-on project-based learning with computers, 3D printer, laser, large format printing, table top machines, and power tools to provide opportunities for students to apply design techniques, soft skills, teamwork, and problem solving strategies. Students will be able to utilize the tools and equipment to take their project ideas through the stages of planning, designing, prototyping, and production. The challenging design projects would incorporate a variety of career paths by using electronic soldering projects, scale models of bridges, house framing models, working catapults, and coaster designs.

Program Duration & Grade Level

Mechanical Design and Architectural Design is a two (2) year program. Once a student starts in 11th grade, they will be required to continue and complete the program in their 12th grade year.

Certifications & Qualifications

Upon completion of the two-year program, students may receive the following certifications: American Design Drafting Association Certified Apprentice Drafter, OSHA-10, Autodesk AutoCAD User and Inventor Certifications with 150 contact hours.

Prior Knowledge

Prior knowledge needed in math includes but is not limited to:

- 4 Function math skills without a calculator
- Knowledge of metric system and basic decimal and fraction conversions

Estimated Pay

Estimated salaries for a person in the Engineering and Architecture fields

Job Description	Degree	Estimated Starting Salary
Mechanical Engineer	Associate Degree	\$56,330
Architect	Bachelor's degree	\$79,450

Bonds Career Center accepts students based upon a rubric considering attendance, discipline, grades, and teacher recommendations. Administrators will consider mitigating factors on a case-by-case basis. Administrators may revoke student privileges at any time for failure to meet program requirements. The maximum enrollment for this class is 20 students due to safety requirements, accreditation rules, and facility/equipment limitations.