



CALHOUN COMMUNITY COLLEGE TECHNOLOGIES

The vision for technology education is to deliver programs that are current and flexible, while providing students with a foundation of education and technical skills that will be the start of a process of lifelong learning. Offerings range from established programs in Aerospace Technology, Design Drafting Technology (including 3D modeling), Machine Tool Technology (including CNC Programming), Electrical Technology (including Industrial Maintenance and Instrumentation Options), Air Conditioning and Refrigeration, and Process Technology. All programs are housed in new or upgraded facilities that provide state-of-the-art equipment in classroom and hands-on laboratory settings.

AEROSPACE TECHNOLOGY

This program prepares graduates for employment in aerospace and related industries through classroom and laboratory instruction in structures and assembly. Students learn to manufacture/assemble flight hardware by working with a team-centered environment with demanding quality and safety standards. Flight hardware includes rockets, missile systems, helicopter components, International Space Station and other NASA or military systems. This program also provides enhancement training structures, electrical assembly, composites, paint/coating and other technologies.

DEGREE/CERTIFICATES AWARDED: Associate of Applied Science Degree (*Structures & Assembly and Welding*) • Short-Term Certificate (*Aerospace Fundamentals*)
SALARY RANGE: \$38,000-\$76,000/yr.

AIR CONDITIONING/REFRIGERATION

Heating, air conditioning, and refrigeration mechanics and installers—often called HVACR technicians—work on heating, ventilation, cooling, and refrigeration systems that control the temperature and air quality in buildings. Fields for students to choose from are Advanced ACR, Indoor Air Quality, System Design, ACR Commercial, ACR Business or ACR Controls. The student in the program learns to install and repair air conditioning and refrigeration equipment in office buildings, factories, homes, food stores, restaurants, theaters, and other establishments. The practical experiences provide proficiency in cutting pipe and repair and maintenance of refrigeration and air conditioning equipment along with load and duct design.

DEGREES/CERTIFICATES OFFERED: Associate of Applied Science Degree • Short-Term Certificates
SALARY RANGE: \$30,000 - \$45,000/yr.

DESIGN DRAFTING TECHNOLOGY

This program consists of three paths: Engineering, Architectural, and Additive Manufacturing. Concepts taught are sketching and critical thinking, design methods, 3D Modeling, 3D printing, BIM and advanced problem solving. Software used includes AutoCAD, SolidWorks, Revit, Solid Edge, Insight, and Materialize. Graduates would look forward to seeking qualified positions in fields such as 3D Designer, 3D Solid Modeler, Additive Technician, 3D printing operators, CAD Technicians, architectural/engineering designing drafters, and survey technicians, just to name a few.

DEGREES/CERTIFICATES OFFERED: Associate of Applied Science Degree (3 paths) • Short-Term Certificates (3)
SALARY RANGE: \$36,000 - \$58,000/yr.

ELECTRICAL TECHNOLOGY

This program teaches installation and maintenance of all electrical and power systems for homes, businesses, and manufacturers. Technicians install and maintain the wiring and control equipment through which electricity flows and calibrate, and maintain electrical equipment in a wide range of files. Job opportunities for electrical technicians may include residential and commercial wiring, industrial plant operations, automated manufacturing, renewable energy resources, manufacturing engineering and industrial electronics.

DEGREE/CERTIFICATES AWARDED: Associate of Applied Science Degree • Short Certificate (*Entry Level Electrician*)
SALARY RANGE: \$32,000-\$53,000/yr.

INDUSTRIAL MAINTENANCE

This program prepares students for employment as entry level technicians in a variety of specialized maintenance fields such as Mechanical, Electrical, HVAC and Instrumentation. Concepts covered are basic electrical concepts, motor controls, mechanical drives, hydraulics and pneumatics, programmable logic controllers, basic instrumentation principles, wiring, NEC codes, and fundamentals of pressure, force, weight, motion, liquid level, and fluid flow.

DEGREES/CERTIFICATES OFFERED: Associate of Applied Science Degree with four specializations: *Mechanical, Electrical, HVAC and Instrumentation*
Short-Term Certificate (*Instrumentation*)
SALARY RANGE: \$37,000 - \$63,000/yr.

MACHINE TOOL TECHNOLOGY

This program is a study of the process of using machine tools to manufacture useful products and parts. Students will acquire specialized knowledge and skills in many areas including mathematics, print reading, physics, measuring, instruments, cutting tool, machine tools and CNC machining. The employment outlook for Machine Trades is very strong with numerous opportunities available both nationally and especially in the North Alabama - South Central Tennessee area. Companies that utilize machinists include medical, aerospace, defense, energy, automotive, and numerous other fields including contract shops (job shops).

DEGREES/CERTIFICATES OFFERED: Associate of Applied Science Degree • Short-Term Certificates (*Manual Machining and CNC*)
SALARY RANGE: \$28,000 - \$59,000/yr.

PROCESS TECHNOLOGY

This program provides students skills needed to be able to pursue a career in process industries. This includes chemical plant operations, energy production, public utility operations as well as other manufacturing processes that employ systematic use of automated equipment to take raw materials and convert them into products with increased value. The demand for qualified process control technicians remains consistent. The job tasks that process control technicians perform include monitoring and interpreting instrumentation, sampling and analysis of raw materials and products to ensure conformance, field checks and observations, charging raw materials and finishing products. Essential roles include safe operations as well as ensuring environmental compliance while keeping processes operating.

DEGREES/CERTIFICATES OFFERED: Associate of Applied Science Degree
SALARY RANGE: \$49,000 - \$76,000/yr.

RENEWABLE ENERGY

This program will prepare graduates with the applicable principles and knowledge of solar energy, conservation, efficient building construction technology and instills a broader understanding of the scientific, economic and political context of the industry. Students in the Renewable Energy program will learn and train in the, state of the art Alabama Center for Excellence in Clean Energy Technology (ACECET) facility on the Calhoun campus, and will leave Calhoun prepared to excel in this rapidly expanding industry. The enormous growth in the renewable energy industry has created an equally large demand for trained workers. Through the ACECET program, Calhoun was the first accredited training center for renewable energy technology in Alabama, and serves as the state's launching pad for renewable energy professionals. Many of our graduates are employed locally and nationally. These employers may be design, contracting or service companies.

DEGREES/CERTIFICATES OFFERED: Associates of Applied Science Degree • Short-Term Certificate
SALARY RANGE: \$37,000 - \$53,000/yr.

ROBOTICS/MECHATRONICS

This program will prepare graduates for entry-level employment in industrial automation. Concepts covered include a Mechatronic approach to training; programmable logic controllers (Allen Bradley and Siemens); digital fundamentals; interfacing microcomputers to electro-mechanical devices; and flexible manufacturing cells.

DEGREES/CERTIFICATES OFFERED: Associates of Applied Science Degree • Short-Term Certificate
SALARY RANGE: \$40,000 - \$60,000/yr.

WELDING TECHNOLOGY

This program prepares students with the principles of welding as well as the nature of metals and types of gases used in welding. The welding curriculum is designed to meet the minimum skill standards established by the American Welding Society for entry-level welders. Training includes arc welding, plasma and air carbon arc cutting, oxyacetylene welding, TIG welding, MIG welding, gas metal and flux core arc welding, welding inspecting testing principles and fabrication techniques. Entry-level welders are employed in a wide range of industries that use welding and welding-related tasks.

DEGREES/CERTIFICATES OFFERED: Associates of Applied Science Degree • Short-Term Certificate
SALARY RANGE: Maintenance Welder - \$29,000 - \$56,000/yr. Pipe Welder - \$35,344 - \$102,888/yr. Structural Welder - \$35,000 - \$56,000/yr. Welding Inspector - \$42,000 - \$78,000/yr.

<http://calhoun.edu/academics/technologies>