

Planning a successful career can begin in high school!

The Center of Applied Technology South

High school students can attend the Center of Applied Technology South (CAT South) as part of their regular daily schedule. In each program, students can earn credits required for graduation.

Completion of any of the 14 programs at the Center provides students with a combination of technical and academic expertise that can be utilized in a variety of ways. All programs offer the background and experience needed for immediate employment. Many programs articulate with colleges and universities, so students can earn college credits while in high school.

The programs at CAT South offer the foundation for employment, knowledge about related careers and continuing education, and work study positions. Studies combine both academics and applied technology.

The Career Exploration Program

The Career Exploration program allows students to explore four programs in one semester and earn 0.5 credit. Career Explorations is taken during period 1B. Transportation is provided to and from CAT South.

Semesters	Programs	Credits
One	4	1/2 Credit

Students can experience the environment, equipment, materials, skills, and safety rules of their chosen technical areas. The information students gain can be of significant value in career planning and expanding their interests and abilities.



More information is available at www.catsouth.org

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ANNE ARUNDEL
COUNTY PUBLIC SCHOOLS

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www.aacps.org
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Anne Arundel County Public Schools

What is it?

The **Welding** program offers students the opportunity to learn the art of *Shielded Metal Arc, Mig, and Tig Welding*. The program also includes *Oxy-acetylene Welding, Cutting and Plasma Arc Cutting* processes. Classroom theory topics cover safety, varied welding processes, as well as blueprint reading and basic metallurgy.

Level 1 begins the training in the oxy-acetylene and shielded metal arc welding processes. Throughout the program, emphasis is placed on all aspects of welding safety. Reading and writing assignments, classroom lecture, and shop demonstrations are used to help bridge theory to the performance of welding processes and related topics. Students perform torch fusion welding, MIG Welding, and basic Shielded Metal Arc Welding (SMAW). Students also experience the processes of cutting metal using the oxy-acetylene cutting torch and the plasma arc cutting system.

Instruction and practice allow **level 2** students to advance their skills in the SMAW process including performing out-of-position welding. They train in the Mig welding process using both solid core and flux core welding wire. Students also begin the Tig process by welding carbon steel, aluminum, and stainless steel. Theory instruction includes basic metallurgy, blueprint reading, and the knowledge and use of weld symbols.

Students will be certified by the National Center for Construction Education and Research (NCCER) in both Welding Curriculum and Core Curriculum. Students also have the opportunity to become certified in structural steel welding through AWS DI-1 Welding Certification.

About the program...

You will:

Gain experience in many aspects of the welding field, including:

- Oxy-acetylene torch cutting
- Plasma-arc torch cutting
- Oxy-acetylene torch welding
- Carbon air arcing
- Shielded metal arc welding (SMAW)
 - Performed in all positions
 - Performed using a variety of electrodes
 - Performed on a variety of weld joints
- Gas metal arc welding (MIG)
 - Performed using solid core wire
 - Performed using flux core wire
 - Performed in a variety of positions
- Gas tungsten arc welding (TIG)
 - Performed using mild steel
 - Performed using aluminum
 - Performed using stainless steel
- Fabrication
- Welding inspection

Program Requirements

- Students must be entering 10th or 11th grade.
- Students must maintain a 2.0 GPA in all classes.
- Students must maintain a C or better to continue to level 2.

Credit Requirements

Credits required for completer — 4		
Level I	1.0 Credit	One semester
Level II	3.0 Credits	Two semesters
Technical Math	1.0 Credit	Two semesters
Optional		
Work Based Learning	2.0 Credits	One semester
	4.0 Credits	Two semesters

Career Opportunities

Welding is used for construction and repair in many areas, such as:

- Construction: bridges, power plants, buildings: beams, piping, stairs, and refineries
- Transportation: aircraft, railroads, automotive and trucking and ship and barge building

Careers are available for:

- Manual and semi-automatic welding
- Welding machine operators
- Welding inspector
- Welding engineer

Related Professions

For more information about the welding field, visit the American Welding Society's website:

www.aws.org

The AWS was founded in 1919 with a goal to advance the science, technology, and application of welding.

