



The Academy of Coastal Studies provides five pathways for students to empower themselves with the knowledge and skills needed to protect and preserve the environment and the livelihood of the beautiful Gulf Coast. Students may choose from Coastal Environmental Studies, Environmental Management – Plant Systems, Fisheries Management & Aquaculture,

Maritime & Industrial Technologies, and Recreation, Travel, & Tourism, and given the close connection between the pathways, students will be given the option to enroll in courses in multiple pathways. These five pathways are designed to provide a platform for collegiate and/or career opportunities.

### Pathway Overview:

#### Maritime & Industrial Technologies



For students interested in the shipbuilding industry, the Maritime & Industrial Technologies pathway offers training in a variety of areas vital to ship production. Through on-campus welding courses or courses in pipefitting, engine repair, and electrical/wiring systems offered at the Bryant Career Technical Center, students gain skills that will enable them to seek enrollment in post-secondary training programs and/or transition directly to full-time employment upon graduation.



### Course Sequence

10th Grade	11th Grade	12th Grade
Introduction to Welding	Applied Welding I	Applied Welding II

## Course Descriptions

---

### Introduction to Welding

This a one-credit course that provides students with a fundamental understanding of welding safety, basic shielded metal arc welding, blueprint reading, weld symbols, and identification of shop equipment. Students acquire knowledge for safe operation of shielded metal arc welding processes and oxy-fuel cutting. Upon successful completion of this course, students are able to interpret lines, views, and dimensions of weld joint configurations and weld symbols; identify oxy-fuel cutting equipment and components; determine proper setup of equipment for application; identify safety hazards and welding equipment related to shielded metal arc welding; and make quality welds with E-6010 and E-7018 electrodes in the flat, horizontal, vertical, and overhead positions.

### Applied Welding I with Plasma Arc Cutting

This one-credit course provides students with instruction regarding safety and terminology in the shielded metal arc welding (SMAW) process, equipment identification, setup and operation of plasma arc equipment, and reading and interpreting detailed drawings. Emphasis is placed

on striking and controlling the arc and proper fitting of weld joints. Upon successful completion of this course, students are able to perform fillet welds in the 1-F and 2-F positions with E-6010 and E-7018 electrodes in accordance with the American Welding Society (AWS) D1.1 codes. Students identify safety hazards, gases, and equipment, and practice the operation of manual plasma arc cutting equipment while observing safety precautions.

---

### Applied Welding II with Carbon Arc Cutting

This one-credit course introduces students to the proper setup and operation of shielded metal arc welding (SMAW) equipment in the vertical, 3-F and overhead, 4-F positions. Emphasis is placed on striking and controlling the arc. Proper setup and operation of manual air carbon and gouging and cutting operations on plain carbon steel are addressed. Upon successful completion of this course, students are able to perform fillet welds in the vertical, 3-F and overhead, (4-F) positions with E-6010 and E-7018 electrodes in accordance with the AWS D1.1 code and produce industry quality cuts with carbon arc cutting equipment.