

# Industrial Sciences & Technology (Welding Process Specialist)

Associate of Applied Science (A.A.S.)



DEGREE PLAN  
2020-2021

## Transfer Options

- Arkansas State University-Jonesboro
  - BAS Organizational Supervision
- Oklahoma State University Institute of Technology
  - Bachelor of Technology Applied Technical Leadership
- University of Arkansas-Fort Smith
  - Bachelor of Applied Science

Welding processes is a complex engineering discipline that involves aspects of welding techniques, procedures, application of welding to problems involving materials science, design, inspection, fabrication of metals, production specifications, planning, and engineering principles. The welding process specialist establishes welding procedures to guide production and welding personnel in the manufacturing environment, including the evaluation of new developments in the welding field for possible application to current welding problems or production processes. This program builds on skills obtained in the technical certificate earned in the SAU Tech Welding Academy.

## Mission

The mission of the Industrial Sciences & Technology program is to provide quality education and training that enhance employment opportunities and increase the personal development of students including opportunity to complete a four-year degree.

## Program Goals

The Associate of Applied Science in Industrial Sciences & Technology will provide students the knowledge and skills necessary to obtain entry level employment in the applicable field of study and the first two years of a university program.

## Program Learning Outcomes (PLOs)

- PLO 1. An ability to use the techniques, skills, and modern tools necessary for the appropriate field of study.
- PLO 2. An ability to apply knowledge of mathematics, science, and engineering.
- PLO 3. An ability to identify, formulate, and solve problems.
- PLO 4. An understanding of professional and ethical responsibility.
- PLO 5. An ability to communicate effectively.

## Developmental Coursework

Course Number	Course Title
ENGL0121	Composition I Lab
MATH0131	Mathematical Reasoning Lab

## Semester I (15 hours)

Course Number	ACTS#	Course Title
<sup>1</sup> WA1005	N/A	Welding Processes
<sup>1</sup> WA1015	N/A	Structural Welding
<sup>1</sup> WA1025	N/A	Pipe Welding

## Semester II (15 hours)

Course Number	ACTS#	Course Title
<sup>1</sup> WA2005	N/A	Pipe Welding II
<sup>1</sup> WA2015	N/A	Hi Freq Tig & Pipeline Welding
<sup>1</sup> WA2025	N/A	Capstone

## Semester III (17 hours)

Course Number	ACTS#	Course Title
ENGL1113	ENGL1013	Composition I [P1]
MATH1063	MATH1113	Mathematical Reasoning [P1]
MD1073	N/A	NCCER
MIS1003	CPSI1003	Introduction to Computers
MD1052	N/A	Introduction to Preventive Maintenance
MD2603	N/A	Industrial Safety

## Semester IV (16 hours)

Course Number	ACTS#	Course Title
CE2403	N/A	Internship
CO2213	ENGL2023	Technical Writing [P2]
EM2924	N/A	Programmable Logic Controller 1
MD1403	N/A	Basic Blueprint Reading
CJ1003	CRJU1023	Introduction to Criminal Justice or ECON(Economics), GEOG, HIST, PSCI, PSYC, or SOC prefix

Total Credit Hours: 63

<sup>1</sup>Indicates Technical Certificate in Welding (30 hours).

**WA Courses:** Students must take a welding entrance exam to be admitted to the Welding Academy and show competency on the advanced welding level. Students with no welding experience must take Basic, Intermediate, and Advanced Welding courses (credit or non-credit) prior to admission to the program. It is not necessary to begin the degree with the WA course sequence. Students may begin the program in the third semester sequence.

## PREREQUISITES

P1	Refer to the SAU Tech Placement Plan.
P2	ENGL1113-Composition I
P3	MATH1023-College Algebra and eligible for ENGL1113-Composition I.

### **General Information**

- Developmental coursework may be required in addition to the courses required for this degree and/or certificate(s).
- A [P] indicates that a prerequisite is required before the course can be taken. Refer to the prerequisites table listed below the degree plan or the course description in the College Catalog to determine the prerequisite.

### **General Requirements**

- This degree requires successful completion of 63 credit hours.
- All degree-seeking students are required to take Student Success.
- A minimum 2.00 cumulative grade point average is required for graduation.

### **Residency Requirement**

The student is required to complete a minimum of 15 semester hours in residence at SAU Tech for associate degrees and technical certificates and half of the credit hours required for certificates of proficiency as well as complete all other graduation requirements. Students who wish to pursue additional degrees must complete a minimum of 15 credit hours of difference between the degrees.

### **ACTS Course Numbers**

The Arkansas Course Transfer System (ACTS) contains information about the transferability of courses within Arkansas public colleges and universities. Students are guaranteed the transfer of applicable credits and equitable treatment in the application of credits for admissions and degree requirements. Go to <http://acts.adhe.edu> for more information.