

# Industrial Sciences & Technology

Associate of Applied Science (A.A.S.)  
(Emphasis: Welding Process Specialist)

## Transfer Options

- Arkansas State University-Jonesboro
  - BAS Organizational Supervision
- Southern Arkansas University
  - BS Engineering Physics-Welding Engineering Technology
- 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. The Welding Process Specialist emphasis at SAU Tech will transfer to Southern Arkansas University's Welding Engineering program and is one of only two such programs in the United States leading to a career as a welding engineer.

## 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 Outcomes

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

## 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.



DEGREE PLAN  
2019-2020

## Developmental Coursework

Course Number	Course Title
CO0143	Introduction to Language Arts
CO0243	Writing Workshop
MATH0133	Transitional Math 1
MATH0233	Transitional Math 2

## 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

Students transferring to Southern Arkansas University should take the courses below for Semesters III and IV.

## Semester III (14 hours)

Course Number	ACTS#	Course Title
EN1003	N/A	Introduction to Engineering
ENGL1113	ENGL1013	Composition I [P1]
MATH1023	MATH1003	College Algebra [P1]
MD1052	N/A	Introduction to Preventive Maintenance
MIS1003	CPSI1003	Introduction to Computers

## Semester IV (16 hours)

Course Number	ACTS#	Course Title
EN2033	N/A	Welding Engineering
ENGL2213	ENGL1023	Composition II [P2]
PHYS2003/2001	PHYS2014	College Physics I w/Lab [P3]
MO1033	N/A	Operations Management
CJ1003	CRJU1023	Introduction to Criminal Justice <b>or</b> ECON(Economics), GEOG, HIST, PSCI, PSYC, or SOC prefix

Students not transferring to Southern Arkansas University or any other college **and** students transferring to Arkansas State University-Jonesboro or University of Arkansas Fort Smith should take the courses below for Semesters III and IV.

## Semester III (15 hours)

Course Number	ACTS#	Course Title
MD1073	N/A	NCCER
ENGL1113	ENGL1013	Composition I [P1]
EM2924	N/A	Programmable Logic Controller 1
MD1052	N/A	Introduction to Preventive Maintenance
MD2603	N/A	Industrial Safety

## Semester IV (15 hours)

Course Number	ACTS#	Course Title
CE2403	N/A	Internship I
ENGL2213	ENGL1023	Composition II [P2]
MATH1063	MATH1103	College Math [P1]
MD1403	N/A	Basic Blueprint Reading
MIS1003	CPSI1003	Introduction to Computers
CJ1003	CRJU1023	Introduction to Criminal Justice <b>or</b> ECON(Economics), GEOG, HIST, PSCI, PSYC, or SOC prefix

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

**General Requirements**

- This degree requires successful completion of 60 credit hours.
- All degree-seeking students are required to take Student Success.
- A minimum 2.00 cumulative grade point average is required for graduation.
- Satisfaction of all financial obligations due to the college is required for graduation.

**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.

**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.