Industrial Sciences & Technology (Electrical Engineering)

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
- Southern Arkansas University
  - BS Engineering Physics-Engineering Technology Option
- University of Arkansas-Fort Smith
  - Bachelor of Applied Science

The focus for this emphasis area is electrical engineering. This degree emphasis can be a stand-alone career technical degree that prepares graduates to go to work or students can transfer the degree to Southern Arkansas University to complete a four-year degree. Automated and robotic technology in today's workplace calls for individuals who are highly skilled in automated machine programming, operations, and problem-solving. The program prepares technicians who troubleshoot, wire, repair, maintain, program, and control automated and robotic systems found in industrial and manufacturing Industries worldwide. Program content is based on industrial robotic certification modules through FANUCRobotic, the world's largest manufacturer of robotic equipment and software. Whether it is diagnosing and quickly solving problems so production flow is maintained or assisting engineers in the development and modification of new and existing designs, you will be prepared for a career that is set to grow as technology advances.

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 Goal

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.

Developmental Coursework

Course Number	*Course Title*
ENGL0121	Composition I Lab
MATH0121	College Algebra Lab
MATH0131	Mathematical Reasoning Lab

Semester I (16 hours)

Course Number	*ACTS#*	*Course Title*
[1,2]EN1003	N/A	Introduction to Engineering
[1]MD1113	N/A	Motor Controls
[1]MIS1003	CPSI1003	Introduction to Computers
[1]EE1003	N/A	Introduction to Basic Electricity
GSTD1021	N/A	Student Success I
[1]*Choose three (3) hours from these courses:*		
MATH1023* MATH1063	MATH1103 MATH1113	College Algebra [P1] Mathematical Reasoning [P1]

Semester II (16 hours)

Course Number	*ACTS#*	*Course Title*
[1,2]EN1023	N/A	Engineering Concepts I [P2]
[1,2]EN1033	N/A	Digital Logic
[1]ENGL1113	ENGL1013	Composition I [P1]
[1]MD1003	N/A	Computer Integrated Manufacturing I
[1]MD1403	N/A	Basic Blueprint Reading
GSTD1031	N/A	Student Success II

Semester III (15 hours)

Course Number	*ACTS#*	*Course Title*
EE1323	N/A	DC/AC Analysis for Engineering [P6]
[3]EM2924	N/A	Programmable Logic Controller 1
[2]EN2034	N/A	Fundamentals of CAD
GSTD1041	N/A	Students Success III
Choose three (3) hours from these courses:		
CO2213* ENGL1123	ENGL2023 ENGL1023	Technical Writing [P3] Composition II [P3]

Semester IV (16 hours)

Course Number	*ACTS#*	*Course Title*
CE2403	N/A	Internship
PHYS2003/2001	N/A	College Physics w/Lab [P4]
[3]EM2963	N/A	PLC for Engineering [P5]
EN2043	N/A	Robotic Applications
CJ1003	CRJU1023	Introduction to Criminal Justice or ECON(Economics), GEOG, HIST, PSCI, PSYC, or SOC prefix

*Students wishing to transfer course work in this degree to Southern Arkansas University for the BS in Engineering Physics-Engineering Technology Option must take Composition II and College Algebra.

Total Credit Hours: 63

[1]Indicates Technical Certificate in Engineering Technology (30 hours).
[2]Indicates Certificate of Proficiency in Engineering Technology (13 hours).
[3]Indicates Certificate of Proficiency in Programmable Logic Controllers (7 hours).

Program Outcomes

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.

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.

PREREQUISITES

P1	Refer to the SAU Tech Placement Plan.
P2	EN1003-Introduction to Engineering
P3	ENGL1113-Composition I
P4	Eligible for ENGL1113-Composition I and MATH1023-College Algebra
P5	EM2924-Programmer Logic Controller 1.
P6	EE1003-Intro to Basic Electricity.