

Engineering Technology (Automated & Robotic Engineering)

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

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 automated and robotic 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.

Program Goals

1. Apply basic engineering theories and concepts creatively to analyze and solve technical problems.
2. Utilize with a high degree of knowledge and skill equipment, instruments, software, and technical reference materials currently used in industry.
3. Communicate effectively using developed writing, speaking and graphics skills.
4. Assimilate and practice the concepts and principles of working in a team environment.
5. Obtain employment within the discipline or matriculate to a four-year program in engineering or industrial technology.



**DEGREE PLAN
2021-2022**

Developmental Coursework

Course Number	Course Title	Required	Enrolled	Completed
ENGL 0121	Composition I Lab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MATH 0121	College Algebra Lab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Semester I (16 hours)

Course Number	ACTS#	Course Title	Enrolled	Completed
¹ ENGL 1113	ENGL 1013	Composition I [P1]	<input type="checkbox"/>	<input type="checkbox"/>
^{1,2} EN 1003	N/A	Introduction to Engineering	<input type="checkbox"/>	<input type="checkbox"/>
¹ MIS 1003	CPSI 1003	Introduction to Computers	<input type="checkbox"/>	<input type="checkbox"/>
¹ EE 1003	N/A	Introduction to Basic Electricity	<input type="checkbox"/>	<input type="checkbox"/>
GSTD 1021	N/A	Student Success I	<input type="checkbox"/>	<input type="checkbox"/>
<i>¹Choose three (3) hours from these courses:</i>				
MATH 1023*	MATH 1103	<input type="checkbox"/> College Algebra [P1]	<input type="checkbox"/>	<input type="checkbox"/>
MATH 1063	MATH 1113	<input type="checkbox"/> Mathematical Reasoning [P1]		

Semester II (16 hours)

Course Number	ACTS#	Course Title	Enrolled	Completed
^{1,2} EN 1023	N/A	Engineering Concepts I [P2]	<input type="checkbox"/>	<input type="checkbox"/>
^{1,2} EN 1033	N/A	Digital Logic	<input type="checkbox"/>	<input type="checkbox"/>
¹ MD 1003	N/A	Computer Integrated Manufacturing I	<input type="checkbox"/>	<input type="checkbox"/>
¹ MD 1113	N/A	Motor Controls [P6]	<input type="checkbox"/>	<input type="checkbox"/>
¹ MD 1403	N/A	Basic Blueprint Reading	<input type="checkbox"/>	<input type="checkbox"/>
GSTD 1031	N/A	Student Success II	<input type="checkbox"/>	<input type="checkbox"/>

Semester III (15 hours)

Course Number	ACTS#	Course Title	Enrolled	Completed
EE 1323	N/A	DC/AC for Engineering [P6]	<input type="checkbox"/>	<input type="checkbox"/>
³ EM 2924	N/A	Programmable Logic Controller 1	<input type="checkbox"/>	<input type="checkbox"/>
² EN 2034	N/A	Fundamentals of CAD	<input type="checkbox"/>	<input type="checkbox"/>
GSTD 1041	N/A	Students Success III	<input type="checkbox"/>	<input type="checkbox"/>
<i>Choose three (3) hours from these courses:</i>				
CO 2213*	ENGL 2023	<input type="checkbox"/> Technical Writing [P3]	<input type="checkbox"/>	<input type="checkbox"/>
ENGL 1123	ENGL 1023	<input type="checkbox"/> Composition II [P3]		

Semester IV (16 hours)

Course Number	ACTS#	Course Title	Enrolled	Completed
CE 2403	N/A	Internship	<input type="checkbox"/>	<input type="checkbox"/>
PHYS 2014	PHYS 2014	College Physics [P4]	<input type="checkbox"/>	<input type="checkbox"/>
³ EM 2963	N/A	PLC for Engineering [P5]	<input type="checkbox"/>	<input type="checkbox"/>
EN 2043	N/A	Robotic Applications	<input type="checkbox"/>	<input type="checkbox"/>
<i>Choose three (3) hours from these courses:</i>				
CJ 1003	CRJU 1023	<input type="checkbox"/> Introduction to Criminal Justice <input type="checkbox"/> ECON [P7], GEOG, HIST, PSCI, PSYC, or SOC prefix	<input type="checkbox"/>	<input type="checkbox"/>

*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

¹Indicates Technical Certificate in **Engineering Technology (30 hours)**.

²Indicates Certificate of Proficiency in **Engineering Technology (13 hours)**.

³Indicates Certificate of Proficiency in **Programmable Logic Controllers (7 hours)**.

Program Learning Outcomes (PLOs)

Upon completion of the this program, graduates will be able to:

- PLO 1. Apply the knowledge, techniques, skills and modern tools of the concentration of study to specifically defined engineering technology activities.
- PLO 2. Demonstrate the knowledge of mathematics, science, engineering and technology by applying it to engineering technology problems using developed practical knowledge.
- PLO 3. Conduct and report the results of standard tests and measurements, and conduct, analyze, and interpret experiment or project results.
- PLO 4. Function effectively as a member of a technical team.
- PLO 5. Identify, analyze and solve specifically defined engineering technology-based problems
- PLO 6. Employ written, oral and visual communication in a technical environment.

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	EN 1003-Introduction to Engineering
P3	ENGL 1113-Composition I
P4	ENGL 1113-Composition I and MATH 1023-College Algebra
P5	EM 2924-Programmer Logic Controller 1.
P6	EE 1003-Intro to Basic Electricity or HVAC 1023-Fundamentals of Electricity.
P7	MATH 1023-College Algebra or MATH 1063-Math Reasoning.