

# Systems Maintenance, Automation, and Robotic Technology (SMART), AAS

Academic Year 2026-2027

## Program Description:

The SMART program prepares students for entry-level to intermediate-level careers as systems maintenance specialist who work in modern manufacturing environments on manufacturing, automation, and robotic equipment and systems. The program provides a flexible approach allowing scheduling adjustments to meet current industry demands, while providing students with a thorough background in electrical, fluid power, maintenance operations, and troubleshooting techniques. Students will learn a variety of other maintenance skills through electives that allow them to choose between generalist and specialist within topics such as mechanical. Power systems, motors, PLC control, robots, and automated systems. Not all topics are available every semester and will vary based on interest and industry demand.

The graduate will have the skills required for manufacturing positions including industrial maintenance, maintenance technician, automation specialist, manufacturing maintenance mechanic, maintenance electrician, production operator, manufacturing specialist, skilled trades, and multi-craft worker

## Career Outlook and Salary Forecast

For the most current salary information, please refer to the Bureau of Labor Statistics “Occupational Outlook Handbook” found at [www.bls.gov/ooh/](http://www.bls.gov/ooh/).

## Program Outcomes:

- Perform lock-out/tag-out for all types of devices
- Use measuring tools and calculate necessary responses
- Troubleshoot and repair electrical motors and drives
- Troubleshoot and repair mechanical devices
- Troubleshoot and repair Pneumatic and Hydraulic devices
- Read and interpret technical Drawings
- Prepare maintenance plans

## Program Admission Requirements

The program has admission and candidacy requirements in addition to the Mountwest admission guidelines. Students must also apply with Marshall Advanced Manufacturing Center.

## Contact Information:

Wendy Quattlebaum

Director of Skilled Trades and Industrial Technologies

Phone: 304-710-3384

Email: [quattlebaum@mctc.edu](mailto:quattlebaum@mctc.edu)

*Mountwest empowers students to learn and lead in the community and in the workforce.*

**SMART – Systems Maintenance, Automation, and Robotic Technology, AAS – CS40**

Name:					ID Number 942-
Educational Counselor:					
Faculty Advisor:					
COURSE	REQUIREMENTS	SEM	HRS	GR	SUBSTITUTE/REPEAT CRS
MFG 105	Intro to Manufacturing Systems & Safety		3		
MFG 110	Intro to Maintenance Operations		3		
MFG 115	Precision Measurement		3		
MFG 117	Blueprints for Manufacturing		3		
MFG 132	Electrical/Electronics Theory for Maintenance		4		
			16		
MFG 130	Industrial Maintenance Electrical Principles		3		
MFG 148	Fluid Power		3		
MFG	MFG Restricted Elective <sup>1</sup>		8		
			14		
ENL 101 or ENL 131	Written Communication or Business and Technical Report Writing		3		
IT 101	Fundamentals of Computers		3		
MAT 135	Technical Mathematics		3		
Elective	Restricted Elective <sup>2</sup>		8		
			17		
COM 125	Interpersonal Communication		3		
Elective	General Education Elective <sup>3</sup>		3		
MFG	MFG Restricted Elective <sup>1</sup>		6		
MFG 290	SMART Capstone		1		
			13		
<b>HOURS REQUIRED FOR GRADUATION: 60</b>					

<sup>1</sup> MFG Restricted electives may be any MFG courses not already completed. These may be taken in any sequence during the semesters with at least one course required in the final semester along with the MFG 290 capstone.

<sup>2</sup> Restricted electives may be any MFG, MT (Machining), WELD (Welding), or ELT (Electronics) courses not already completed.

<sup>3</sup> Choose from any Math, Science, Social Science, English, Communication, History, or Humanities course. General Education courses may also be taken in any sequence in semesters 3 and 4, but must complete at least 2 courses each semester unless courses are already completed prior to the term.

<sup>4</sup> ENL 101/ENL 131 has a prerequisite of ACT 18, SAT 480, Accuplacer 250-300, or be placed in ENL 101E/ENL 131E. Students must complete course with a “C” or above to graduate.