

# MICROCONTROLLERS CERTIFICATE

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Students who obtain the Microcontroller Certificate have demonstrated their ability to install, integrate, and program microcontrollers. Microcontrollers are integrated circuits that function as self-contained, embedded computing systems. These compact devices encapsulate a central processing unit (CPU), memory, and programmable input/output (I/O) peripherals onto a single chip, enabling them to execute dedicated control functions within a wide array of electronic systems. Unlike general-purpose computers, microcontrollers are optimized for real-time applications and resource efficiency, making them indispensable for embedded systems design. Their ability to interface with sensors and actuators facilitates the automation and control of processes in diverse fields, from consumer electronics and automotive systems to industrial automation and the Internet of Things (IoT).

Electronic Engineering Technology Major

## Program Learning Outcomes

Upon completion, the student will be able to:

1. Write programs to operate sophisticated machinery.
2. Diagnose problems and provide correct, effective solutions.
3. Apply their growing set of skills to creatively solve technical problems.

### Technical Standards

See here for details.

Code	Title	Hours
<b>Math Elective</b>		
Minimum 3 Credits		
IMT 1911	Technical Math I	3
MTH 1370	College Algebra	4
<b>Manufacturing Elective</b>		
Minimum 13 Credits		
CPT 1120	Introduction to VB Programming	3
CPT 2320	C# Programming	3
EET 1110	Circuit Analysis I	3
EET 1120	Circuit Analysis II	3
EET 1330	Digital Circuits	4
EET 2310	Microcontroller Fundamentals	4
ENV 1300	OSHA Regulations and Safety	3
EET 2900	Electric Codes and Application	2
IMT 2260	Industrial Electronic Controls	3
IMT 2820	Mechanical Power Transmission Systems	2
MET 1000	Engineering Graphics with AutoCAD	3
or MET 1010	Blueprint Reading and Sketching	
or MET 1020	Material Science	
or MET 1110	Manufacturing Processes	

or MET 1130 Statics  
 or MET 2210 Strength of Materials  
 or MET 2440 Computer Aided Design

**Total Hours** 16

🎓 Capstone

Rhodes State College's Electronic Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET.