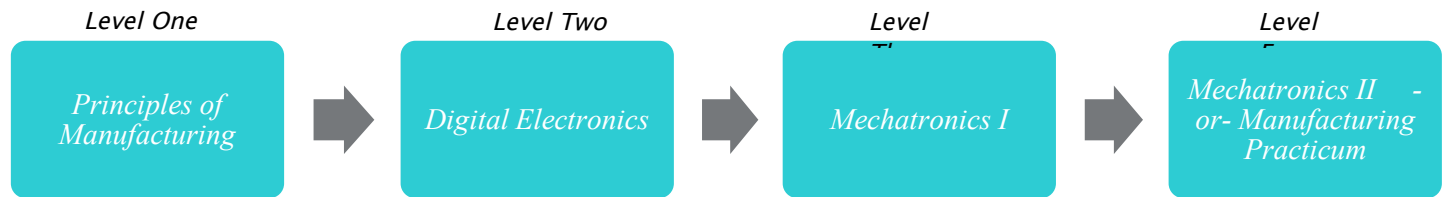


# MECHATRONICS

## Advanced Manufacturing

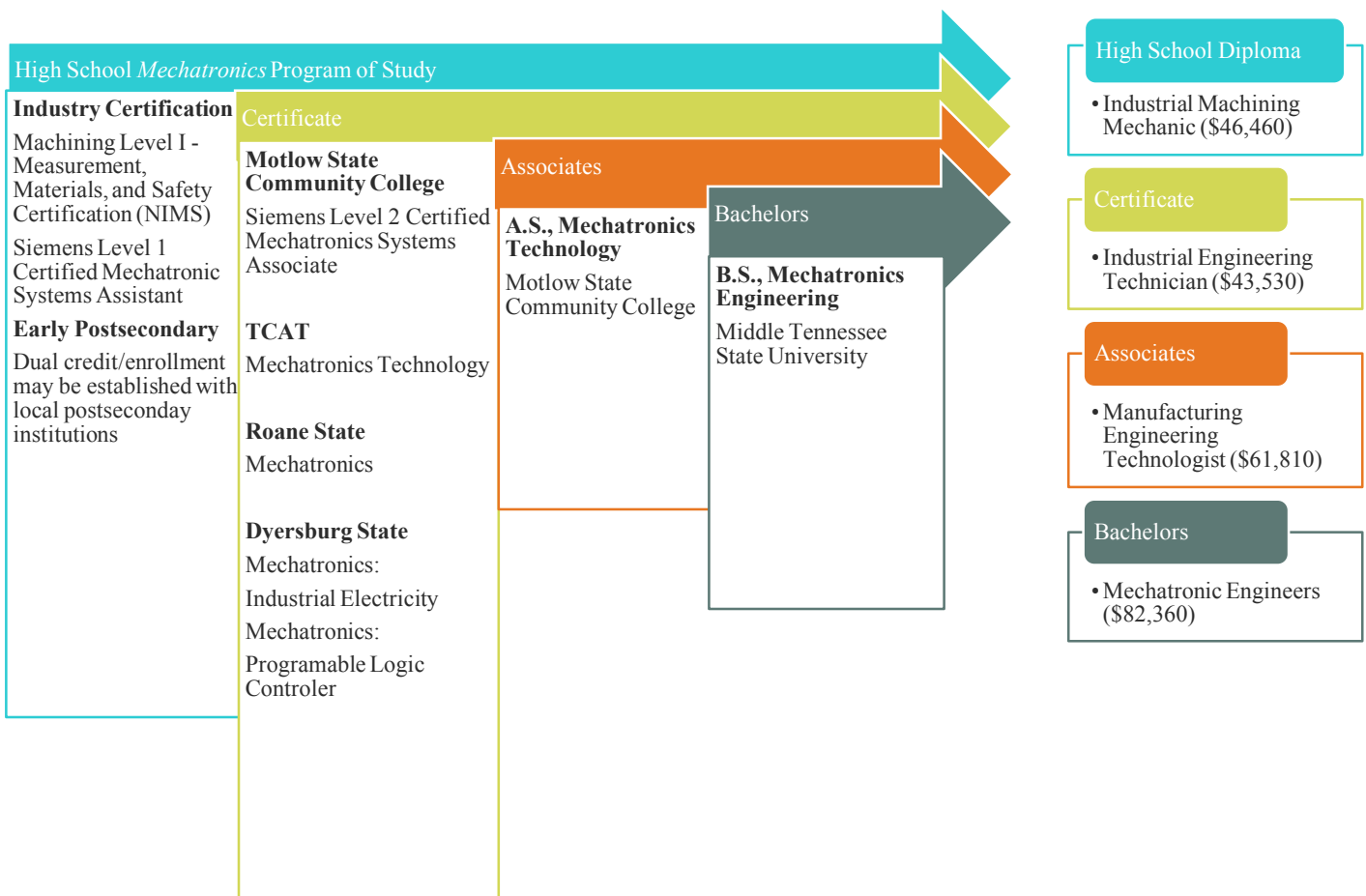


### ABOUT THE PROGRAM OF STUDY

The *Mechatronics* program of study is designed for students interested in becoming a mechatronics technician, electrical technician, mechanical engineering technician, robotics technician, or mechatronics engineer. Course content focuses on the components of manufacturing systems, collection and analysis of quality data, electronics, mechanics, fluid power systems, computers and control systems, and technical documentation and troubleshooting. Upon completion of this program of study, proficient students will be prepared to pursue industry certification at a technology college or more advanced coursework at a two-year or four-year postsecondary institution.

### Industry Certifications options include:

- Level I Siemens Certified Mechatronic Systems Assistant
- Snap-On Precision Measurement

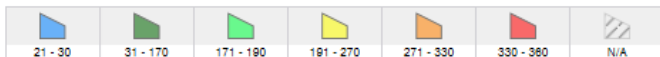


This is not an exhaustive list of all of the opportunities available in Tennessee.

## CAREER OPPORTUNITIES

*Mechatronics* is the study of complex systems and processes to aid in smarter, more efficient product design and development, particularly within manufacturing environments. Mechatronics systems combine mechanical, electrical, computer, and control systems into a unified process, drawing on principles of industrial engineering and related disciplines to optimize results and minimize defects. Examples of classic mechatronics systems within automotive manufacturing environments include the mobile robots and manipulator arms that operate on assembly lines.

### Employment Projections for *Mechatronics* careers in Tennessee



### *Mechatronics* Related Occupations with the most Annual Average Openings in Tennessee (2014–2024)

Occupation	2014 Estimated Employment	2024 Projected Employment	Total Percent Change
<b>Mechatronic Engineers (Engineers, All Other)</b>	3,020	3,290	8.90%
<b>Industrial Engineer Technicians</b>	1,610	1,680	4.90%
<b>Manufacturing Engineering Technologists</b>	630	660	6.0%

Tennessee Department of Labor and Workforce Development, Job4TN Online. (2017). *Occupational Projections (Long-term)*. Retrieved from <https://www.jobs4tn.gov/vosnet/analyzer/results.aspx?session=occpj>

## POSTSECONDARY OPTIONS

School	Degree Program
Motlow State Community College	Manufacturing Engineering Technologist
Middle Tennessee State University	Mechatronic Engineer

For more college and career planning resources, visit <http://collegefortn.org>.



Have you registered for the Tennessee Promise? Seniors enrolled in this program have the chance to attend a two-year program at a Tennessee College of Applied Technology (TCAT), community college, or some two-year university programs for free! To learn more, please see your school counselor or visit <http://www.tennesseepromise.gov>.



# SkillsUSA

Students in this program of study will be eligible to join SkillsUSA. In addition to school events, students will be able to compete at the regional, state, and national level. SkillsUSA improves the quality of America's skilled workforce through a structured program of citizenship, leadership, employability, technical and professional skills training. SkillsUSA enhances the lives and careers of students, instructors and industry representatives as they strive to be champions at work. See your manufacturing teacher to learn more about SkillsUSA or visit <http://www.skillsusa.org>

**For more information, contact:**  
**Tennessee College of Applied Technology–Ripley**

**Instructor: Name**  
**Email**