

# ROBOTICS AND AUTOMATION, CERTIFICATE OF SPECIALIZATION

## Florissant Valley

This program focuses on robotics and automation techniques within the workplace. Students take courses which emphasize the use of equipment. The program provides a mix of theory and hands on training. Persons interested in this program should be mechanically inclined, and logic oriented self-starters. Flexible and creative thinking are assets in this field. Graduates are qualified for a variety of technical positions within the automotive, aerospace, heavy equipment, chemical, electrical, petroleum and food processing industries that utilize robotics and automation processes.

**Interested in this program?** Start the enrollment process by visiting the Apply to STLCC (<https://www.stlcc.edu/admissions/apply-to-stlcc>) page.

## At the completion of the program, students are expected to:

1. use variable and comparator operations in PLC and Robotics programs.
2. write and execute a pick and place routine for a robotic manipulator.
3. integrate pieces of robotics and automation equipment into a system.
4. discuss the major brands and components of PLCs.
5. discuss the major brands and components of robotic manipulators.
6. design basic fixturing for automation components.

Code	Title	Credit Hours
ME 140 or ME 121	Introduction to Robotics Computer Integrated Manufacturing	3
ME 210	Robotics Subsystems and Components	3
ME 211 or EE 236	Programmable Logic Controllers PLC/Programmable Logic Controller	3
ME 237	Programmable Logic Controllers II	3
ME 230	Introduction to 3-D Solid Modeling for Design	4
Total Credit Hours		16

Code	Title	Hours	Prerequisites	Milestones/Notes
<b>First Year</b>				
<b>Fall</b>				
ME 140 or 121	Introduction to Robotics or Computer Integrated Manufacturing	3	Reading Proficiency.	ME 140 only offered every 2 years
ME 211 or EE 236	Programmable Logic Controllers or PLC/Programmable Logic Controller	3	ME 140 recommended and Reading Proficiency.	These courses are offered interchangeably
ME 230	Introduction to 3-D Solid Modeling for Design	4	Department approval and Reading Proficiency.	
	Credit Hours	10		
<b>Spring</b>				
ME 210	Robotics Subsystems and Components	3	ME 140, EE 242 or department approval and Reading Proficiency.	Offered every 2 years
ME 237	Programmable Logic Controllers II	3	EE 236 or ME 211 both with minimum grades of "B" or department approval. Reading Proficiency.	Apply for graduation
	Credit Hours	6		
	Total Credit Hours	16		

\*Click on the hyperlinked course number to view additional information about the course.

\*\*Students completing a course that has been assigned a MOTR number may transfer that course to any public institution in Missouri. Those who complete CORE 42 requirements will have that verification on their transcript.

\*\*\* It is your responsibility to verify that the courses listed above will transfer to the four-year institution of your choice. Maximize your transfer credits/classes by meeting with an academic advisor.