Kentucky CTE

Advanced Manufacturing: Industrial Maintenance Technology: Robotics and Automation (For Maintenance) 470351 (2026–2027)

Practice and perform safe shop procedures at all times. 1	1 Practice and perform safe shop procedures at all times. 1
Apply the technical math required for employment opportunities in maintenance. 2	2 Apply the technical math required for employment opportunities in maintenance. 2
Perform all duties with emphasis on integrity, responsibility, quality, discipline and teamwork. 3	3 Perform all duties with emphasis on integrity, responsibility, quality, discipline and teamwork. 3
Explain the set-up, repair, and maintenance of automatic machines. 4	4 Explain the set-up, repair, and maintenance of automatic machines. 4
Explain the set-up, repair, and maintenance of processing equipment. 5	5 Explain the set-up, repair, and maintenance of processing equipment. 5
Explain the set-up, re of tog	6 Explain the set-up, repair, and maintenance of robots that work together as part of total automated manufacturing system. 6

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total automated manufacturing system. 6	
Develop cost/benefit analysis for automation. 7	7 Develop cost/benefit analysis for automation. 7
Develop case studies for improving production, efficiency, and profitability. 8	8 Develop case studies for improving production, efficiency, and profitability. 8
Analyze, summarize, and interpret major factors in automation, including operator training, teamwork, resistance, and organized labor. 9	9 Analyze, summarize, and interpret major factors in automation, including operator training, teamwork, resistance, and organized labor. 9
Analyze and develop safety strategies for automated systems. 10	10 Analyze and develop safety strategies for automated systems. 10
Develop online and offline robot programs. 11	11 Develop online and offline robot programs. 11
Describe components in the integrated manufacturing environment. 12	12 Describe components in the integrated manufacturing environment. 12
Demonstrate knowledge of robot terminology. 13	13 Demonstrate knowledge of robot terminology. 13
Read and understand technical manuals. 14	14 Read and understand technical manuals. 14
Explain how to perform preventive maintenance. 15	15 Explain how to perform preventive maintenance. 15
Ide th systems. 16	Identify and describe the functions of vision systems. 16

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Describe open-loop and closed-loop control. 17	**17 Describe open-loop and closed-loop control.** 17
Demonstrate knowledge of servo and non-servo systems. 18	**18 Demonstrate knowledge of servo and non-servo systems.** 18
Demonstrate knowledge of robot classifications. 19	**19 Demonstrate knowledge of robot classifications.** 19
Define computer-integrated manufacturing (CIM) systems. 20	**20 Define computer-integrated manufacturing (CIM) systems.** 20
Develop a safety strategy for automated work cells to include risk assessment and risk reduction. 21	**21 Develop a safety strategy for automated work cells to include risk assessment and risk reduction.** 21
Demonstrate leadership skills. 22	**22 Demonstrate leadership skills.** 22