

WITHLACOOCHEE TECHNICAL COLLEGE

Automation and Production Technology

J100100 / 9200100

Course Description

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the manufacturing career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, occupation-specific skills, and knowledge of all aspects of the manufacturing career cluster. This program offers a broad foundation of knowledge and skills to prepare students for employment in Automation and Production positions. Prepares students for the Manufacturing Skills Standards Council – Certified Production Technician assessment (MSSC-CPT).

Textbooks

Textbooks are not required for this course; however, students must purchase the Manufacturing Skill Standards Council's e-learning modular courses for:

CPT Safety Module* \$130.00	CPT Manufacturing Process and Production Module	\$130.00
CPT Quality Module \$130.00	CPT Maintenance Awareness Course Module	\$130.00

How You Are Graded

- Competency / Performance Evaluation (hands on lab work)
- Evaluation (assignments and written quizzes)
- Final: Course Completion Exams, Competency / Performance Exams.
- Employability Skills

Grading and Distribution

100 – 90	A	Classroom	30%
89 – 80	B	Lab/Shop	30%
79 – 70	C	Attendance	30%
69 – 60	D	Professional Performance & Work Ethic	10%
Below 60	F		

Course Content

<u>Week 1</u> <u>Aug. 10-14</u> • The World of Manufacturing ◦ MSSC Safety Units 1 – 5 • LearnMate – Introduction to Manufacturing	<u>Week 2</u> <u>Aug. 17-21</u> • The World of Manufacturing ◦ MSSC Safety Units 6 – 9 • Production Teams –MSSC Safety Unit 10 • Manufacturing Project (Arrow Plane) • LearnMate – Industrial Safety
<u>Week 3</u> <u>Aug. 27-28</u> • A Safe & Productive Workplace ◦ MSSC Safety Units 11 – 14 • Microsoft Office (Word) • LearnMate – Math I	<u>Week 4</u> <u>Aug. 31-Sept. 4</u> • A Safe & Productive Workplace ◦ MSSC Safety Units 15 – 18 • Microsoft Office (PowerPoint) • Amatrol – Applied Mechanisms** • LearnMate – Mechanical Workbench**

Week 5 • MSSC Test Prep (Safety) • MSSC Assessment – “Safety” • LearnMate – Hand Tools • LearnMate – Mechanical Workbench** • LearnMate – Power Tools	<u>Sept. 8-11</u>	Week 6 • Producing Products ◦ MSSC Processes and Production Units 35 – 39 • LearnMate – Lean Manufacturing • Microsoft Office (Excel)	<u>Sept. 14-18</u>
Week 7 • Producing Products ◦ MSSC Processes and Production Units 40 – 44 • LearnMate – Scorbot-ER 4u**	<u>Sept. 21-25</u>	Week 8 • Producing Products ◦ MSSC Processes and Production Units 45 – 49 • LearnMate – Mechanical Measurement & Quality Control • LearnMate – Scorbot-ER 4u** • Guest Speaker (Soldering)	<u>Sept. 28-Oct. 1</u>
Week 9 • Mathematics (Classroom) • LearnMate – Blueprint Reading • LearnMate – Robotics Engineering Curriculum • Entrepreneurship Project (Team) • MSSC Test Prep (Processes & Production) • MSSC Assessment – “Manufacturing Processes and Production”	<u>Oct. 5-9</u>	Week 10 • Maintenance Awareness • MSSC Maintenance Awareness Units 54 – 58 • Electrical Circuits (Classroom) • LearnMate – Electrical Circuits** • LearnMate – Robotics Engineering Curriculum • LearnMate – Mechanical Workbench**	<u>Oct. 12-16</u>
Week 11 • Maintenance Awareness ◦ MSSC Maintenance Awareness Units 59 – 63 • Electrical Circuits (Circuit Boards) • LearnMate – Electric Motors** • SolidWorks	<u>Oct. 19-23</u>	Week 12 • Maintenance Awareness ◦ MSSC Processes and Production Units 64 – 67 • Fluid Power Overview (Classroom) • LearnMate – Fundamentals of Hydraulics I**	<u>Oct. 26-30</u> <u>Nov. 9-13</u>
Week 13 • Quality Practices and Measurement ◦ MSSC Quality Units 19 – 21 • LearnMate – Fundamentals of Pneumatics I** • MSSC Test Prep (Maintenance Awareness) • MSSC Assessment – “Maintenance Awareness”	<u>Nov. 2-6</u>	Week 14 • Quality Practices and Measurement ◦ MSSC Quality Units 22 – 26 • Introduction to Programmable Logic Controllers • LogixPro Simulation Software • LearnMate – SLC 500 PLC**	
Week 15 • Quality Practices and Measurement • MSSC Quality Units 27 – 30 • LearnMate – SLC 500 PLC** • Speaker Project (Intro to CAD/CAM/CNC) • LearnMate – SpectraCAM	<u>Nov. 16-20</u>	Week 16 • Quality Practices and Measurement • MSSC Quality Units 31 – 34 • Employability Skills • LearnMate – CNC Milling	<u>Nov. 30-Dec. 4</u> <u>Dec. 14-18</u>
Week 17 • LearnMate – CNC Turning • Lab Stations • MSSC Test Prep (Quality) • MSSC Assessment – “Quality Practices and Measurement”	<u>Dec. 7-11</u>	Week 18 • Lab Stations • Site Visit (Manufacturing Facility)	
Week 19 • Lab Stations • Site Visit (Manufacturing Facility) • Mock Interviews	<u>Jan. 6-8</u>	** -> 2 students at a time. Have to schedule trainers.	