



# WORKFORCE DEVELOPMENT

## COASTAL ALABAMA COMMUNITY COLLEGE

### Industry Short Course Catalog

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## Industry 4.0 Fundamentals

1. Industry 4.0: Course 1 - Introduction to Mechatronics	2. Industry 4.0: Course 4 - Introduction to Industrial Internet of Things
3. Industry 4.0: Course 2 - Introduction to Industrial Control Systems	

## Automation

1. Mechatronics Troubleshooting {Amatrol eBook}	2. Tabletop Smart Factory Manufacturing Execution System - AB
3. PanelView Operator Interface - AB Control Logix {Amatrol eBook}	4. Smart Factory Barcode System - Siemens S7-1500
5. Mechatronics RF Identification System (AB CompactLogix L16)	6. Smart Factory Vision Inspection System - Siemens S7-1500
7. Principles of Robotics	8. Mechatronics Troubleshooting System - Siemens S7-1500
9. Pegasus Robotics Simulation	10. Smart Factory PROFINET System - Siemens S7-1500
11. Robotics and Computer Programming	12. Smart Factory Network Security Learning System - Siemens S7-1500
13. Robotics 1	14. Smart Factory Wireless Communications
15. Mechatronics CNC Mill	16. Smart Factory Manufacturing Execution System - Siemens S7-1500
17. Machine Vision Inspection Systems	18. Smart Factory Visual Communication System - Siemens S7-1500
19. Mechatronics (870-AB53A) Compact Logix L16/Studio 5000	20. Mechatronics System (Siemens S7-1500)
21. Mechatronics	22. Mechatronics - Siemens S7-1500 / Siemens STEP 7 Professional

23. Mechatronics Troubleshooting System - AB CompactLogix L16	24. Smart Factory Sensor System - Siemens S7-1500, Pneumatics/ Vacuum
25. Mechatronics RF Identification System (AB CompactLogix L16)	26. Smart Factory Sensor System - Siemens S7-1500, Ultrasonic
27. Tabletop Mechatronics	28. Smart Factory Sensor System - Siemens S7-1500, Photoeye
29. Pegasus Robotics Simulation 30.	31. Smart Factory Device Learning System - Siemens S7-1500, Stack Light
32. Tabletop Mechatronics	33. Smart Factory Sensor System - Siemens S7-1500, Electrical Current
34. Robotics and Computer Programming	35. Smart Factory Sensor System - Siemens S7-1500, Analog Position
36. Mechatronics HMI Siemens S7-1500	37. Smart Factory Sensor System - Siemens S7-1500, Analog Pressure
38. Mechatronics Barcode Identification (AB CompactLogix L16)	39. Tabletop Smart Factory Visual Communications - Allen-Bradley
40. Table-Top Mechatronics Servo Robot System	41. Smart Factory Visual Communications - Allen-Bradley
42. Tabletop Smart Factory RFID/Sensors	43. Smart Factory Sensor System - Allen-Bradley L16, Pneumatics/ Vacuum
44. Mechatronics Barcode Product Identification (AB micro800)	45. Smart Factory Sensor System – Allen-Bradley L16, Ultrasonic
46. Tabletop Smart Factory Ethernet - AB Micro820	47. Smart Factory Sensor System - Allen-Bradley L16, Photoeye
48. Smart Factory Barcode System - Allen-Bradley L16	49. Smart Factory Device Learning System - Allen-Bradley L16, Stack Light
50. Mechatronics RFID AB L16	51. Smart Factory Sensor System – Allen-Bradley L16, Electrical Current
52. Smart Factory Ethernet - AB CompactLogix L16	53. Smart Factory Sensor System - Allen-Bradley L16, Analog Position
54. Smart Factory Network Security Learning System – AB CompactLogix L16	55. Smart Factory Sensor System - Allen-Bradley L16, Analog Pressure

56. Smart Factory Manufacturing Execution System - AB CompactLogix L16	57. Ethernet for Mechatronics {Amatrol eBook}
58. Robótica 1	59. Mechatronics Hmi {Amatrol eBook}
60. Principles of Factory Automation	61. Mechatronics {Amatrol eBook}
62. Principles of Robotics	63. Mechatronics - AB CompactLogix/rsLogix 5000 {Amatrol eBook}
64. Computer Control 2 (Micro820)	65.

## Electronics

1. AC Motor Drives	2. PLC Analog Application - SLC500 {Amatrol eBook}
3. AC Motor Drive Troubleshooting	4. PLC Analog Application - ControlLogix {Amatrol eBook}
5. Electrical Control Systems	6. PanelView Operator - SLC500 {Amatrol eBook}
7. Variable Frequency AC Drive	8. PLC Troubleshooting - Siemens S7-300 Series {Amatrol eBook}
9. Power and Control Electronics	10. Mastering Programmable Controllers {Amatrol eBook}
11. Programmable Controller - AB CompactLogix	12. PLC Statement List {Amatrol eBook}
13. AC Motor Drive Troubleshooting	14. PLC Analog - Siemens S7300 {Amatrol eBook}
15. Electric Motor Control	16. Mastering Programmable Controllers {Amatrol eBook}
17. AC Electronic Drives	18. Plc Profibus - Siemens S7 {Amatrol eBook}
19. Electric Motor Control	20. Mpc (siemens Mp277) {Amatrol eBook}
21. Portable PLC Learning System - AB CompactLogix L16	22. PLC Graph Programming - S7300 {Amatrol eBook}
23. Portable PLC with Troubleshooting - AB CompactLogix L16	24. Mpc - Siemens S7-300/as-i Bus {Amatrol eBook}

25. Power and Control Electronics	26. MPC (SIEMENS ET200pro/STEP 7) {Amatrol eBook}
27. Variable Frequency AC Drive	28. Mastering Programmable Controllers {Amatrol eBook}
29. Mastering Programmable Controllers (A-B CompactLogix L16)	30. MPC (SIEMENS ET200pro/STEP 7) {Amatrol eBook}
31. AC Electronic Drives	32. Plc Troubleshooting – Siemens S7315 {Amatrol eBook}
33. Power and Control Electronics	34. Programmable Controller, Siemens S7312 {Amatrol eBook}
35. PLC Motor Control AB Micro820	36. DC Electronic Drives {Amatrol eBook}
37. PLC Motor Control AB Micro 810	38. Portable Plc - Siemens S71200 {Amatrol eBook}
39. Mastering PLCs (890-AB5500)	40. Portable Plc Troubleshooting - Siemens S71200 {Amatrol eBook}
41. Computer Control 1 (A-B Micro820)	42. PLC ControlNet - ControlLogix {Amatrol eBook}

## Electrical

1. Industrial Electrical Wiring	2. PLC/VFD Wiring System
3. Electric Motor Control	4. Motor Troubleshooting System (85-MT2E)
5. AC/DC Electrical Systems	6. Alternator / Synchronous Motor
7. Electrical Fabrication 1	8. DC Generators
9. Motor Braking	10. Electric Motor Control Troubleshooting

11. Electronic Counter	12. Electric Relay Control
13. Electrical Fabrication 1	14. Electrical Control 1
15. SCR Speed Control	16. Sistemas de Control Eléctrico 1
17. Reduced Voltage Starting	18. Sistemas Eléctricos de CA/CD 1
19. Electrical Power Distribution	20. Portable Electric Relay Control Troubleshooting
21. Electronic Sensors	22. Manufactura Eléctrica 1
23. Electric Wiring System	24. Electronic Counter
25. Industrial Soldering	26. SCR Speed Control
27. Rotating Electric Machines	28. Wound Rotor Motor

## Fluid Power

1. Hydraulic Troubleshooting {Amatrol eBook}	2. Basic Pneumatics Troubleshooting
3. Basic Pneumatics	4. Portable Basic Hydraulics
5. Basic Hydraulics	6. Hydraulic Maintenance
7. Principles of Hydraulics	8. Intermediate Hydraulics
9. Electro-Fluid Power Systems	10. Intermediate Pneumatics
11. Neumática 1	12. Electronic Sensors
13. Portable Pneumatics	14. Advanced Pneumatics
15. Electronic Sensors	16. Advanced Hydraulics
17. Basic Hydraulics Troubleshooting	18. Pneumatic Fitting Construction

## Green Technology

1. Mechanical Drives 1 - Wind Technology	2. Alternative Energy
3. Wind Concepts	4. Solar Thermal Troubleshooting - Open-Loop
5. Turbine Electric Hub Troubleshooting	6. Solar Thermal Troubleshooting Closed-Loop
7. Turbine Generator Control Troubleshooting	8. Solar Thermal Installation
9. Turbine Nacelle Troubleshooting	10. Solar PV Troubleshooting
11. Solar Concepts	12. Solar Photovoltaic Installation
13. Solar Site Analysis	14. Solar Grid-Tie

## Lean Manufacturing

1. Lean Overview and Workplace Organization	2. Poka-Yoke
3. Introduction to Lean	4. Lean Theory
5. 5S	6. Standardized Work
7. Total Productive Maintenance	8. Kaizen
9. Lean Process Flow	10. Value Stream Mapping
11. Visual Workplace	12. Six Sigma
13. Set-Up Reduction	

## Machining

1. Manual Machine Tools	2. Tooling for Grinding
3. Machine Tools 1	4. Máquinas Herramienta 1
5. Machine Tools 2	6. CNC Machine Tools 1
7. Machine Tools 3	8. CNC Machine Tools 2
9. CNC Machines 1 - Micromill	10. CNC Machine Tools 3 (Denford Microturn)
11. CNC Control	12. Máquinas Herramienta CNC 1
13. Principles of Tooling	14. Principles of Coolants and Oils
15. Principles of Machining Centers	16. Principles of Gear Manufacturing
17. Principles of CNC	18. Tooling for Turning
19. Principles of Turning	20. Tooling for Machining Centers
21. Principles of Grinding	22. Tooling for Tapping
23. Principles of Workholding	

## Manufacturing Processes

1. Blueprint Reading	2. Computer-Aided Design 1 - SolidWorks 2019
3. Print Reading 1	4. Computer Aided Design 1
5. AWS Welding Symbols on Blueprints	6. Computer Aided Design 2 - SolidWorks 2019
7. General Dimensioning and Tolerances	8. Computer Aided Design 2
9. Computer-Aided Design 1 - SolidWorks 2018	10. Wiring Harness Assembly
11. Product Finishing	12. Fasteners



13. Welding Technology 1	14. Gaskets
15. Production Assembly	16. Stall Bar Assembly
17. Split Flange Coupling Assembly	18. DC-Electric Torque Wrench Assembly
19. Electric Torque Wrench Assembly	20. Computer-Aided Manufacturing 1 (96-CAM1)
21. Contamination	22. Computer-Aided Manufacturing 1 (Mastercam X2)
23. Diseño Asistido por Computadora 1	

## Materials

1. Plastic Mold Design	2. Principles of Materials - Ferrous Metals
3. Manufacturing Processes 3	4. Principles of Materials - Non-Ferrous Metals
5. Structural Engineering 1	6. Principles of Heat Treating
7. Structural Engineering 2	8. Principles of Plastics
9. Surveying	10. Principles of Composites
11. Materials Engineering 1	12. Principles of Ceramics

## Mechanical

1. Pump Systems {Amatrol eBook}	2. Mechanical Drives 1 - Metric
3. Vibration Analysis {Amatrol eBook}	4. Portable Mechanical Drives 2
5. Pump {Amatrol eBook}	6. Mechanical Drives 2
7. Rigging Systems 1	8. Mechanical Drives 3

9. Rigging Systems 2	10. Laser Shaft Alignment
11. Rigging 3 {Amatrol eBook}	12. Portable Laser Shaft Alignment
13. Mechanical Fabrication 1	14. Vibration Analysis {Amatrol eBook}
15. Mechanical Fabrication 2	16. Multiple Pump {Amatrol eBook}
17. Laser Shaft Alignment	18. Turbine Pump {Amatrol eBook}
19. Mechanical Drives 1	20. Diaphragm Pump {Amatrol eBook}
21. Mechanical Drives 2	22. Peristaltic Tubing Pump {Amatrol eBook}
23. Herramientas de Medición 1	24. Piston Pump {Amatrol eBook}
25. Sistemas Mecánicos 1	26. Gear Pump {Amatrol eBook}
27. Mechanical Systems 1	28. Magnetic Pump {Amatrol eBook}
29. Mechanical Drives 1	30. Mechanical Drives 4 {Amatrol eBook}
31. Lectura de Planos 1	32. Floor Standing Belt Conveyor {Amatrol eBook}
33. Portable Mechanical Drives 2	34. {Amatrol eBook} Predictive Maintenance Vibration Analysis
35. Fabricación Mecánica 1	36. Roller Pack Machine Tool Axis {Amatrol eBook}
37. Rigging Systems 1	38. Plain Bearing Machine Tool Axis {Amatrol eBook}
39. Rigging Systems 2	40. Mechatronics Simulation {Amatrol eBook}
41. Mechanical Fabrication 1	

## Process Control

1. Thermal Process Control {Amatrol eBook}	2. Foundation Fieldbus Process Control 1
3. Data Acquisition {Amatrol eBook}	4. Foundation Fieldbus Process Control 1
5. Data Acquisition Systems {Amatrol eBook}	6. HART Process Control 1
7. Pressure Process Control Systems	8. Process Visualization Control 1
9. Analytical Process Control {Amatrol eBook}	10. Process Control Systems: Ultrasonic Level Measurement and Control
11. ControlLogix Process Control {Amatrol eBook}	12. Process Control Systems: Differential Pressure Flow Measurement and Control
13. Process Control Systems: Ultrasonic Level Measurement and Control	14. Process Visualization Control
15. Process Control Systems: Differential Pressure Flow Measurement and Control	16. Pressure Process Control Systems
17. Process Visualization Control 1	18. Foundation Fieldbus Process Control 1
19. Foundation Fieldbus Process Control 1	20. PLC Process Control - Siemens S7-1200
21. HART Process Control 1	22. PLC Process Control
23. PLC Process Control - AB CompactLogix L16	24. Temperature Process Control {Amatrol eBook}
25. Process Control Systems	26. Analytical Process Control {Amatrol eBook}
27. PLC Process Control - AB CompactLogix L16	

## Quality Assurance

1. Portable Measurement Tools	2. Bench Comparators
3. Quality Control Concepts	4. Optical Comparators
5. Measurement Tools 1	6. Bore Gauges
7. Quality Assurance 1	8. Air Gauges
9. Portable Precision Gauging 1	10. Specialty Micrometers
11. Inspection Techniques 1	12. Miscellaneous Inspection Instruments
13. Surface Plates	14. ISO 9000 and TS 16949
15. Gauge Blocks	16. Statistical Process Control 1
17. Test Indicators	18. Statistical Process Control 2
19. Height Gauges	20. Metrology 1 {Amatrol eBook}

## Safety

1. Safety Practices and Regulations	2. Confined Spaces
3. Overhead Crane Safety	4. Lockout/Tagout
5. Personal Protective Equipment	6. Accident Response
7. Hazardous Communication	8. Overhead Crane Safety

## Thermal

1. Air Conditioning / Heat Pump {Amatrol eBook}	2. Geothermal Troubleshooting with Desuperheater
3. Environmental Applications	4. Geothermal Flush Cart Learning System
5. Thermal Systems 1	6. Thermal Technology 1
7. Geothermal	8. Thermal Technology 2
9. Geothermal Troubleshooting	10. Thermal Troubleshooting {Amatrol eBook}
11. Geothermal Desuperheater	12. Steam Systems {Amatrol eBook}

## Workplace Effectiveness

1. Enterprise Systems 1	2. Trigonometry 1
3. Enterprise Systems 2 {Amatrol eBook}	4. Mathematics 1
5. Principles of Advanced Manufacturing	6. Communication Skills
7. Working in Groups	8. Conflict Resolution
9. Sistemas Empresariales 1	10. Trigonometry 1