

# INDUSTRIAL ELECTRONICS PROGRAM OF STUDY SEQUENCE

Community College      Rend Lake College      High School      Waltonville Township High School

Cluster: Manufacturing      Pathway: Maintenance, Installation & Repair      Program of Study: Industrial Electronics      CIP Code: 47.0303

(DC) = Dual Credit      (WBL) = Work Based Learning      \* = Dual Credit Option not required for POS

\*\*=Higher -level math can be substituted for math requirement (DE) = Dual Enrollment Opportunity

Education Level	Grade	CTE/Degree Major Courses	English	Mathematics	Science	Social Studies/Sciences	Other Required Courses/ Recommended Electives
SECONDARY	9		-English I	-Algebra I	-Biology I	-Civics	-P.E -Health -Computer Applications
	10	- College and Career Exploration (WBL)	-English II	-Geometry	-Life Science	-Modern American History	-P.E. - Safety Education
	11	-Robotics II -MACH 1201 Machining Technology (DC) @ MTV AVC	-English III	-Algebra II	-Biology II	-Government	-P.E. -Consumer Ed -P.E.
	12	-WELD 1270 Intro to Welding Processes (DC) @ MTV AVC	-ENGL 1101 Rhetoric & Composition I (DC)	-MATH 1108 College Algebra (DC)**			-AS Degree DC Option*  <b>TOTAL 25 credits required for graduation</b>
POSTSECONDARY	13 (Fall)	-CSCI 1101 Intro to Computers -IST 1291 Basic Electronics for Technicians	-ENGL 1101 Rhetoric & Composition I (DC)	-MATH 1201 Technical Mathematics or higher(DC)**			
	13 (Spring)	-FLPR 1262 Fluid Power Fundamentals -IST 1250 Electric Motors & Control Circuits -IST 1265 Solid State Electronics -IST 2230 Into to PLCs					
	14 (Fall)	-IST 1221 Industrial Safety (WBL) -IST 2231 Adv Programmable Controllers -IST 2232 Branded Controllers & Industrial PCs -MACH 1201 Machining Tech I (DC) -WELD 1270 Intro to Welding Processes (DC)					
	14 (Spring)	-IST 1230 Intro to Robotics -IST 2258 Automated Control Systems -ELEC 1210 National Electrical Code	-COMM 1101 Principles of Effective Speaking (DE)			-PSYC 2101 Intro to Psychology OR PSYC 2106 Human Relations (DE)	

## Recommended Technical Electives (not required)

-CNS 1212 Hardware & Operating Systems	-COOP 1101 Cooperative Educational Experience
-CSCI 1243 Beginning Microsoft Word	-CSCI 1263 Beginning MS Excel Spreadsheet
-MACH 1202 Machining Technology II	-WELD 1272 Structural Shielded Metal Arc Welding
-WELD 1282 GMAW/GTAW Welding	

## Stackable Certificates (x– courses included in certificate/degree)

Course	Industrial Electronics & Maintenance Technician AAS	Industrial Maintenance Multi-Tech Certificate	Industrial Maintenance Technician Certificate	PLC (Programmable Logic Control) Certificate	Robots & Automation Certificate	Basic Machining Certificate	Industrial Technology AS Degree
BUSI 1202 Employability Skills		X	X	X	X	X	
CNS 1212 Hardware and Operating Systems	Recommended		Elective Option				Elective Option
COMM 1101 Principles of Effective Speaking	X						X
COOP 1101 Cooperative Educational Experience	Recommended		Elective Option				Elective Option
CSCI 1101 Intro to Computers	X		X	X			X
CSCI 1243 Beginning Microsoft Word	Recommended		Elective Option				Elective Option
CSCI 1263 Beginning MS Excel Spreadsheet	Recommended		Elective Option				Elective Option
ELEC 1210 National Electrical Code	X		Elective Option				Elective Option
<b>ENGL 1101 Rhetoric &amp; Composition I (DC)</b>	X						X
FLPR 1262 Fluid Power Fundamentals	X		X				
IST 1221 Industrial Safety	X						
IST 1230 Introduction to Robotics	X				X		
IST 1250 Electric Motors and Control Circuits	X	X		X			
IST 1265 Solid State Electronics	X	X or IST 2232					
IST 1291 Basic Electronics for Technicians	X	X	X	X	X		
IST 2230 Introduction to PLCs	X	X		X	X		
IST 2231 Advance Programmable Controllers	X			X	X		
IST 2232 Branded Controllers & Industrial PCs	X	X or IST 165					
IST 2258 Automated Control Systems	X						
<b>MACH 1201 Machining Technology I (DC)</b>	X		X			X	
MACH 1202 Machining Technology II	Recommended		Elective Option			X	Elective Option
MACH 1203 Machining Technology III						X	
<b>MATH 1201 Technical Mathematics or higher (DC)</b>	X		X				
MFG 1230 Blueprint Reading						X	
PSYC 2101 Intro to Psychology OR PSYC 2106 Human Relations	X						X
<b>WELD 1270 Intro to Welding Processes (DC)</b>	X		X			X	
WELD 1272 Structural Shielded Metal Arc Welding	Recommended		Elective Option				Elective Option
WELD 1282 GMAW/GTAW Welding	Recommended		Elective Option				Elective Option
Technical Elective – 1 Required			X				X
Additional Courses for AS Degree							
CHE 1101 General Chemistry							
ELECTIVE – Humanities x 2							
<b>ENGL 1102 Rhetoric &amp; Composition II (DC)</b>							
ELECTIVE – Social Science x 2							
ELECTIVE – Biological Science							
ENGG 1101 Engineering Graphics							X
ENGL 1102 Rhetoric & Composition II							
HEA 1101 Health Education							
<b>MATH 1108 College Algebra (DC)</b>							
MATH 1109 Plane Trigonometry							
MATH 1215 Calculus for Business							
PHY 1101 College Physics							
PHY 1102 College Physics II							

### 4-Year Articulation Agreements (Postsecondary 15-16)

- Southern Illinois University– Carbondale
  - RLC Industrial Electronics & Maintenance AAS Degree to Bachelor of Science Technical Resource Management
  - RLC Industrial Technology AS to Bachelor of Science Industrial Management & Applied Engineering