

KELLOGG COMMUNITY COLLEGE

INDUSTRIAL ELECTRICITY AND ELECTRONICS

COURSE OPTIONS

SPRING 2022

Certificate: 30 credits (minimum requirement for certificate cannot be completed entirely at this location)
 Associate in Applied Science: 60 credits (combination of industrial electricity/electronics, technical electives, and general education credit requirements)

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Module Subject Code and Number	Module Title	Credit	Contact Hours	Lab Fees	Tuition	Total Cost
<input type="checkbox"/> INEL C910-7201	ELECTRIC ELECTRONICS ORIENTAT		2.0	0.00	0.00	0.00
The orientation must be completed at the RMTC in Battle Creek prior to registration. Please call 269.965.4137 to verify available orientation times.						
UNIT 05 ELECTRICAL SAFETY						
<input type="checkbox"/> INEL 05010-6250	ELECTRICAL SAFETY	0.17	4	3.00	43.86	46.86
UNIT TOTAL		0.17	4	3.00	43.86	46.86
UNIT 10 MATHEMATICS FOR ELECTRICIANS						
<input type="checkbox"/> INEL 10010-6250	ELECTRICAL MATH 1	0.08	2	13.00	20.64	33.64
<input type="checkbox"/> INEL 10020-6250	ELECTRICAL MATH 2	0.25	6	3.00	64.50	67.50
<input type="checkbox"/> INEL 10030-6250	ELECTRICAL MATH 3	0.25	6	3.00	64.50	67.50
UNIT TOTAL		0.58	14	19.00	149.64	168.64
UNIT 15 ELECTRICAL THEORY						
<input type="checkbox"/> INEL 15010-6250	ELECTRICAL THEORY	0.25	6	23.00	64.50	87.50
<input type="checkbox"/> INEL 15020-6250	STATIC ELECTRICITY	0.25	6	23.00	64.50	87.50
<input type="checkbox"/> INEL 15030-6250	CALCULATORS AND ELECTRONICS	0.25	6	23.00	64.50	87.50
<input type="checkbox"/> INEL 15040-6250	DEVICES AND SYMBOLS	0.25	6	23.00	64.50	87.50
<input type="checkbox"/> INEL 15050-6250	MULTIMETER	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15060-6250	OHM'S LAW	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15070-6250	SERIES CIRCUITS	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15080-6250	PARALLEL CIRCUITS	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15090-6250	COMBINATION CIRCUITS	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15100-6250	MAGNETISM	0.25	6	23.00	64.50	87.50
<input type="checkbox"/> INEL 15110-6250	ALTERNATING CURRENT	0.25	6	23.00	64.50	87.50
<input type="checkbox"/> INEL 15120-6250	OSCILLOSCOPE	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15130-6250	INDUCTANCE	0.42	10	23.00	108.36	131.36
<input type="checkbox"/> INEL 15140-6250	CAPACITANCE	0.42	10	23.00	108.36	131.36
<input type="checkbox"/> INEL 15150-6250	RLC CIRCUITS	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15160-6250	CONDUCTION	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 15170-6250	THEORY OVERVIEW	0.21	5	23.00	54.18	77.18
UNIT TOTAL		5.19	125	391.00	1339.02	1730.02
UNIT 20 ELECTRICAL MOTOR CONTROLS 1						
<input type="checkbox"/> INEL 20010-6250	ELECTRICAL MOTOR CONTROLS	0.42	10	23.00	108.36	131.36
<input type="checkbox"/> INEL 20020-6250	MANUAL MOTOR CONTROLS	0.50	12	23.00	129.00	152.00
<input type="checkbox"/> INEL 20030-6250	CONTROL TRANSFORMERS	0.42	10	23.00	108.36	131.36
<input type="checkbox"/> INEL 20040-6250	CONTROL LADDER LOGIC	0.67	16	23.00	172.86	195.86
<input type="checkbox"/> INEL 20050-6250	CONTROL RELAYS MOTOR STARTERS	0.50	12	23.00	129.00	152.00
<input type="checkbox"/> INEL 20060-6250	INTRODUCTION TROUBLESHOOTING	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 20070-6250	SYSTEMS TROUBLESHOOTING	0.42	10	23.00	108.36	131.36
<input type="checkbox"/> INEL 20080-6250	AUTOMATIC INPUT DEVICES	0.42	10	23.00	108.36	131.36
<input type="checkbox"/> INEL 20090-6250	ELECTRONIC SENSORS	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 20100-6250	BASIC TIMER CONTROL	0.33	8	23.00	85.14	108.14
<input type="checkbox"/> INEL 20110-6250	TIMERS AND COUNTERS	0.25	6	23.00	64.50	87.50
UNIT TOTAL		4.59	110	253.00	1184.22	1437.22
UNIT 35 NATIONAL ELECTRICAL CODE (NEC)						
<input type="checkbox"/> INEL 35010-6250	GENERAL WIRING FUNDAMENTALS	0.25	6	17.00	64.50	81.50
<input type="checkbox"/> INEL 35020-6250	WIRE RACEWAY AND BOX SIZING	0.33	8	17.00	85.14	102.14

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Module Subject Code and Number	Module Title	Credit	Contact Hours	Lab Fees	Tuition	Total Cost
UNIT 35 NATIONAL ELECTRICAL CODE (NEC) (CONTINUED)						
<input type="checkbox"/> INEL 35030-6250	BRANCH CIRCUITS	0.33	8	17.00	85.14	102.14
<input type="checkbox"/> INEL 35040-6250	SERVICE FEEDER CALCULATIONS	0.25	6	17.00	64.50	81.50
<input type="checkbox"/> INEL 35050-6250	GROUNDING AND BONDING	0.33	8	17.00	85.14	102.14
<input type="checkbox"/> INEL 35060-6250	OVERCURRENT PROTECTION	0.33	8	17.00	85.14	102.14
<input type="checkbox"/> INEL 35070-6250	MOTOR CIRCUIT WIRING	0.25	6	17.00	64.50	81.50
<input type="checkbox"/> INEL 35080-6250	TRANSFORMERS	0.25	6	17.00	64.50	81.50
<input type="checkbox"/> INEL 35090-6250	GENERAL HAZARDOUS LOCATIONS	0.25	6	17.00	64.50	81.50
<input type="checkbox"/> INEL 35100-6250	HEALTH CARE FACILITIES	0.25	6	17.00	64.50	81.50
<input type="checkbox"/> INEL 35110-6250	EMERGENCY POWER SYSTEMS	0.33	8	17.00	85.14	102.14
<input type="checkbox"/> INEL 35120-6250	INDUSTRIAL APPLICATIONS	0.33	8	17.00	85.14	102.14
<input type="checkbox"/> INEL 35130-6250	SPECIAL APPLICATION WIRING	0.25	6	17.00	64.50	81.50
<input type="checkbox"/> INEL 35140-6250	NEC REVIEW	0.17	4	17.00	43.86	60.86
UNIT TOTAL		3.90	94	238.00	1006.20	1244.20
UNIT 40 POWER DISTRIBUTION SYSTEMS						
<input type="checkbox"/> INEL 40010-6250	POWER GENERATION DISTRIBUTION	0.33	8	39.00	85.14	124.14
<input type="checkbox"/> INEL 40020-6250	ELECTRICAL WIRING TECHNIQUES	0.33	8	39.00	85.14	124.14
<input type="checkbox"/> INEL 40030-6250	WIRING SYSTEM INSTALLATION	0.42	10	39.00	108.36	147.36
<input type="checkbox"/> INEL 40040-6250	INTRODUCTION TO RACEWAYS	0.42	10	39.00	108.36	147.36
<input type="checkbox"/> INEL 40050-6250	BASIC CONDUIT BENDING	0.25	6	39.00	64.50	103.50
<input type="checkbox"/> INEL 40060-6250	ADVANCED RACEWAYS	0.25	6	39.00	64.50	103.50
<input type="checkbox"/> INEL 40070-6250	CONDUCTOR OVERCURRENT PROTECT	0.25	6	39.00	64.50	103.50
<input type="checkbox"/> INEL 40080-6250	CONDUIT SIZING WIRE PULLING	0.33	8	39.00	85.14	124.14
UNIT TOTAL		2.58	62	312.00	665.64	977.64
UNIT 45 FACILITY MAINTENANCE						
<input type="checkbox"/> INEL 45010-6250	PLANS AND SITE WORK	0.25	6	30.00	64.50	94.50
<input type="checkbox"/> INEL 45020-6250	INDUSTRIAL POWER SYSTEMS	0.42	10	30.00	108.36	138.36
<input type="checkbox"/> INEL 45030-6250	SIGNALING SYSTEMS	0.25	6	30.00	64.50	94.50
<input type="checkbox"/> INEL 45040-6250	MOTORS CONTROLLERS INSTALLATIO	0.33	8	30.00	85.14	115.14
<input type="checkbox"/> INEL 45050-6250	SPECIAL EQUIPMENT & HVAC	0.33	8	30.00	85.14	115.14
<input type="checkbox"/> INEL 45060-6250	INDUSTRIAL HAZARDOUS LOCATIONS	0.25	6	30.00	64.50	94.50
<input type="checkbox"/> INEL 45070-6250	SINGLE PHASE TRANSFORMERS	0.33	8	30.00	85.14	115.14
<input type="checkbox"/> INEL 45080-6250	3 PHASE TRANSFORMERS	0.50	12	30.00	129.00	159.00
<input type="checkbox"/> INEL 45090-6250	NEC TRANSFORMER REQUIREMENTS	0.25	6	30.00	64.50	94.50
<input type="checkbox"/> INEL 45100-6250	EMERGENCY ELECTRICAL SYSTEMS	0.25	6	30.00	64.50	94.50
UNIT TOTAL		3.16	76	300.00	815.28	1115.28
UNIT 50 ELECTRICAL CONTROL WIRING						
<input type="checkbox"/> INEL 50010-6250	ELECTRICAL CONTROL WIRING	0.42	10	65.00	108.36	173.36
<input type="checkbox"/> INEL 50020-6250	ELECTRICAL CONTROL SYSTEMS	1.00	24	75.00	258.00	333.00
UNIT TOTAL		1.42	34	140.00	366.36	506.36
UNIT 55 INDUSTRIAL ELECTRONICS						
<input type="checkbox"/> INEL 55010-6250	USING THE OSCILLOSCOPE	0.67	16	21.00	172.86	193.86
<input type="checkbox"/> INEL 55020-6250	METERS FOR ELECTRONICS	0.33	8	21.00	85.14	106.14
<input type="checkbox"/> INEL 55030-6250	ELECTRONIC SOLDERING	0.25	6	21.00	64.50	85.50
<input type="checkbox"/> INEL 55040-6250	SOLDERING PRINTED CIRCUIT BOAR	0.25	6	21.00	64.50	85.50
<input type="checkbox"/> INEL 55050-6250	DIODES	0.25	6	21.00	64.50	85.50
<input type="checkbox"/> INEL 55060-6250	POWER SUPPLIES	0.50	12	21.00	129.00	150.00
<input type="checkbox"/> INEL 55070-6250	PHOTO DEVICES	0.33	8	21.00	85.14	106.14

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UNIT 55 INDUSTRIAL ELECTRONICS (CONTINUED)						
<input type="checkbox"/> INEL 55080-6250	SOLID STATE DEVICES	0.83	20	21.00	214.14	235.14
<input type="checkbox"/> INEL 55090-6250	ELECTRONIC TIMING	0.33	8	21.00	85.14	106.14
<input type="checkbox"/> INEL 55100-6250	AMPLIFIERS	0.83	20	21.00	214.14	235.14
<input type="checkbox"/> INEL 55110-6250	DIGITAL LOGIC FUNDAMENTALS	0.50	12	21.00	129.00	150.00
<input type="checkbox"/> INEL 55120-6250	DIGITAL LOGIC APPLICATIONS	0.42	10	21.00	108.36	129.36
<input type="checkbox"/> INEL 55130-6250	PROXIMITY SWITCHING	0.17	4	21.00	43.86	64.86
<input type="checkbox"/> INEL 55140-6250	PHOTOELECTRIC DEVICES	0.17	4	21.00	43.86	64.86
<input type="checkbox"/> INEL 55150-6250	FIBER OPTIC FUNDAMENTALS	0.33	8	21.00	85.14	106.14
<input type="checkbox"/> INEL 55160-6250	FIBER OPTIC LAB	0.25	6	21.00	64.50	85.50
UNIT TOTAL		6.41	154	336.00	1653.78	1989.78
TOTAL		28	675	1992.00	7,224	9,216

Please note: Kellogg Community College offers additional Industrial Electricity/Electronics courses at the Regional Manufacturing Technology Center in Battle Creek, MI.

FOR OFFICE USE ONLY

Instructor Approval _____ Date _____

Total Credit _____ Total Contact _____ Total Cost _____