INSTRUMENT AND ELECTRICAL TECHNICIAN ASSOCIATE OF APPLIED SCIENCE

Instrument and electrical technicians install, maintain, repair, and calibrate electrical equipment, control systems, and measuring devices that are the foundation of modern manufacturing processes. Graduates are prepared for careers as instrument and electrical (I&E) technicians in high-tech industries including oil refineries, natural gas processing, power plants, water treatment, food processing, and sustainable energy. The I&E program admits new cohorts in the fall of odd numbered years. Some courses are offered every other year.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Program and operate programmable logic controllers.
- Troubleshoot a basic electrical system.
- Construct, install, and troubleshoot motor control relay logic circuits.
- Utilize basic mechanical tools while installing, inspecting, operating and repairing mechanical systems.
- Maintain safe working habits while performing previously referenced procedures.

Required Courses

Code	Title	Credits
General Education Requirements		
CAPP 120	Introduction to Computers	3
COMX 106	Comm in a Dynamic Workplace	3
M 114	Extended Technical Mathematics	3
WRIT 121	Intro to Technical Writing	3
or WRIT 122	Intro to Business Writing	
Subtotal		12
Required Courses		
DST 140	Intro to Hydraulics	2
DST 141	Intro to Hydraulics Lab	2
ELCT 241	Electric Motor Controls	3
ELCT 250	Programmable Logic Controllers	3
ETEC 103	AC/DC Electronics II	3
ETEC 192	Fund Electrical Technicians I	3
ETEC 193	Fund Electrical Technicians II	3
ETEC 231	Electronic Drive Systems	3
ETEC 284	Digital Electronics	4
NTS 104	CCNA 1: Intro to Networks	3
PPT 101	Fund of Process Technology	4
PPT 102	Fund of Process Technology Lab	1
PPT 130	Process Diagrams for Proc Tech	2
PPT 135	Instrument & Control Systems	4
PPT 136	Instrument & Controls Lab	1
PPT 161	Process Plant Safety II	2
TRID 150	Environ/Shop Practices	2
or PPT 151	Process Plant Safety I	
TRID 185	Intro Industrial Power Systems	2
TRID 186	Intro Indstrl Pwr Systms Lab	1
Total Minimum Credits		**60**

Suggested Plan of Study

Code	Title	Credits
Semester 1 Fall		
CAPP 120	Introduction to Computers	3
ETEC 192	Fund Electrical Technicians I	3
PPT 101	Fund of Process Technology	4
PPT 102	Fund of Process Technology Lab	1
PPT 130	Process Diagrams for Proc Tech	2
TRID 185	Intro Industrial Power Systems	2
TRID 186	Intro Indstrl Pwr Systms Lab	1
Total		16
Semester 2 Spring		
ETEC 103	AC/DC Electronics II	3
ETEC 193	Fund Electrical Technicians II	3
M 114	Extended Technical Mathematics	3
PPT 135	Instrument & Control Systems	4
PPT 136	Instrument & Controls Lab	1
Total		14
Semester 3 Fall		
DST 140	Intro to Hydraulics	2
DST 141	Intro to Hydraulics Lab	2
ELCT 241	Electric Motor Controls	3
ETEC 231	Electronic Drive Systems	3
TRID 150	Environ/Shop Practices	2
WRIT 121	Intro to Technical Writing	3
or WRIT 122	Intro to Business Writing	
Total		15
Semester 4 Spring		
COMX 106	Comm in a Dynamic Workplace	3
ELCT 250	Programmable Logic Controllers	3
ETEC 284	Digital Electronics	4
NTS 104	CCNA 1: Intro to Networks	3
PPT 161	Process Plant Safety II	2
Total		15