

INSTRUMENTATION & ELECTRICAL TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE (AAS)

The Instrumentation & Electrical Technology (I&E) program prepares students for a successful career as an Instrumentation Technician. Students earn certificates and a technical diplomas with progression through the program. All courses applied to the degree must be passed with a “C” or better. Developmental courses will not be applied to the degree.

FIRST SEMESTER

<u>COURSE</u>	<u>CREDIT HOURS</u>
General Education, Mathematics/Analytical Reasoning: choose one of the following - MATH 1100, College Algebra, MATH 1203, Applied Algebra MATH 1500, Finite Mathematics	3
CSCI 1010, Introduction to Computer Technology	3
CORE 1003, Core Industry Safety	3
INST 1011, Electrical Systems & Equipment	2
ETRN 1112, Fundamentals of Electricity & Electronics	4
SEMESTER CREDIT HOURS	15

SECOND SEMESTER

<u>COURSE</u>	<u>CREDIT HOURS</u>
ETRN 1212, Fund of Semiconductors, Circuits & Transistors	4
General Education, English Composition: ENGL 1010, English Composition I	3
General Education, Humanities: choose any HIST, PHIL, or RELS	3
ETRN 1420, Digital Circuits	3
INST 1435, Principles of Process Controls/IIoT	3
SEMESTER CREDIT HOURS	16

THIRD SEMESTER

<u>COURSE</u>	<u>CREDIT HOURS</u>
General Education, Natural Science: PHSC 1010, Physical Science I	3
PHSC 1010L, Physical Science Lab	1
INST 1330, Pressure & Level Measurement	3
INST 1425, Flow & Final Control Elements	3
INST 2732, Temperature & Analytical Measurement	3
INST 2745, Motor Controls, VFD & Vibration Analysis	3
SEMESTER CREDIT HOURS	16

FOURTH SEMESTER

<u>COURSE</u>	<u>CREDIT HOURS</u>
General Education, Social Science: choose any ECON, POLI, PSYC, or SOCL course	3
INST 2741, Programmable Logic Controllers	4
INST 2755, Industrial Electrical Control Systems	4
INST 2000, Industry Troubleshooting Capstone	3
SEMESTER CREDIT HOURS	14

Additional academic awards in Instrumentation and Electrical Technology

Instrumentation and Electrical Apprenticeship, Career and Technical Certificate (CTC)

<u>COURSE</u>	<u>CREDIT HOURS</u>
CORE 1003, Core Industry Safety*	3
ETRN 1112, Fundamentals of Electricity & Electronics	4
TOTAL CREDIT HOURS	7

* Qualifies students for the Core Industry-based Certification from the National Center for Construction Education and Research (NCCER)

Instrumentation Helper, Certificate of Technical Studies (CTS)

<u>COURSE</u>	<u>CREDIT HOURS</u>
CSCI 1010, Introduction to Computer Technology	3
CORE 1003, Core Industry Safety	3
INST 1011, Electrical Systems & Equipment	2
ETRN 1112, Fundamentals of Electricity & Electronics	4
ETRN 1212, Fund of Semiconductors, Circuits & Transistors	4
TOTAL CREDIT HOURS	16

Industrial Instrumentation Technology, Technical Diploma (TD)

<u>COURSE</u>	<u>CREDIT HOURS</u>
CSCI 1010, Introduction to Computer Technology	3
CORE 1003, Core Industry Safety	3
INST 1011, Electrical Systems & Equipment	2
ETRN 1112, Fundamentals of Electricity & Electronics	4
ETRN 1212, Fund of Semiconductors, Circuits & Transistors	4
ETRN 1420, Digital Circuits	3
INST 1435, Principles of Process Controls/IIoT	3
PHSC 1010, Physical Science I	3
INST 1330, Pressure & Level Measurement	3
INST 1425, Flow & Final Control Elements	3
INST 2732, Temperature & Analytical Measurement	3
INST 2745, Motor Controls, VFD & Vibration Analysis	3
INST 2741, Programmable Logic Controllers	4
INST 2755, Industrial Electrical Control Systems	4
INST 2000, Industry Troubleshooting Capstone	3
Total Credit Hours	48