

Technical Studies (Associate of Applied Science), Instrumentation Concentration

This program is designed to prepare students to work efficiently as an Instrument Fitter and Technician. Instrument Fitters and Technicians perform key installation and maintenance functions across several industries. The field of instrumentation covers important processes and knowledge areas, including piping, tubing, fasteners, and metallurgy. Instrument Fitters and Technicians are familiar with electrical systems, craft-specific drawings, and are experts in the hand and power tools specific to their trade. This program covers four levels of training based on curriculum developed by the National Center for Construction Education and Research (NCCER). NCCER's curriculum addresses all of the learning objectives associated with this broad and demanding field, in areas such as Fasteners, Relays and Timers, and Grounding and Shielding of Instrumentation Wiring. Students who successfully complete the program will be nationally certified by NCCER.

Source: <http://www.nccer.org/instrumentation>
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To receive this degree, the student must:

- Complete the program of study below.
- Earn a "C" or better in all courses that are to be used towards the degree.

Program Outcomes. Upon successful completion of the program, the graduate will be able to:

1. Employ proper techniques for use and storage of instrumentation equipment.
2. Categorize common instrumentation systems, components, and their uses.
3. Inspect instrumentation systems and components.
4. Integrate various devices to construct an instrumentation system.

PROGRAM OF STUDY

First Semester		Credit Hours
CORE 1003	Introduction to Craft Skills	3
INST 1113	Basic Instrumentation Principles	3
INST 1123	Material Handling and Electrical Measurement	3
INST 1133	Lubricants, Tubing, Piping, and Hoses	3
Gen Ed MATH	Any department-approved General Education Course in Mathematics	3
Semester Total:		15
Second Semester		Credit Hours
INST 1213	Temperature, Pressure, Level, and Flow	3
INST 1223	Test Equipment Applications	3
INST 1233	Raceways and Protective Measures	3
INST 1243	Tubing Systems	3
ENGL 1013	English Composition I	3
Semester Total:		15
Third Semester		Credit Hours
INST 2313	System Control	3
INST 2323	Electrical Circuitry for Instrumentation	3
INST 2333	Conductor Applications and Testing	3
INST 2343	Process Control Theory	3

Gen Ed Humanities	Any department-approved, SACSCOC-accepted General Education course in Humanities	3
Semester Total:		15
Fourth Semester		Credit Hours
INST 2413	Instrument Calibration	3
INST 2423	Programmable Logic Controller (PLC) Systems and Loop Calibration	3
INST 2433	Distributive Control Systems (DCSs), Analyzers, and Monitors	3
Gen Ed Soc Sci	Any department-approved General Education course in the Social Sciences	3
Gen Ed PHSC	Any department-approved General Education course in the Physical Sciences	3
Semester Total:		15
Total Program Credit Hours, Technical Studies AAS; Instrumentation Concentration		60

Instrumentation Credentials Available

NCCER Instrumentation Level 1 courses (12 credit hours):		Credit Hours
CORE 1003	Introduction to Craft Skills	3
INST 1113	Basic Instrument Principles	3
INST 1123	Material Handling and Electrical Measurement	3
INST 1133	Lubricants, Tubing, Piping, and Hoses	3
		12
NCCER Instrumentation Level 2 courses (12 credit hours):		Credit Hours
INST 1213	Temperature, Pressure, Level, and Flow	3
INST 1223	Test Equipment Applications	3
INST 1233	Raceways and Protective Measures	3
INST 1243	Tubing Systems	3
CTS, NCCER Instrumentation Level 2 (Level 1 and Level 2 courses)		24
NCCER Instrumentation Level 3 courses (12 credit hours):		Credit Hours
INST 2313	System Control	3
INST 2323	Electrical Circuitry for Instrumentation	3
INST 2333	Conductor Applications and Testing	3
INST 2343	Process Control Theory	3
NCCER Instrumentation Level 3 (Level 1, Level 2, and Level 3 courses)		36
NCCER Instrumentation Level 4 courses (9 credit hours):		Credit Hours
INST 2413	Instrument Calibration	3
INST 2423	Programmable Logic Controller (PLC) Systems and Loop Calibration	3
INST 2433	Distributive Control Systems (DCSs), Analyzers, and Monitors	3
NCCER Instrumentation Level 4 (Level 1, Level 2, Level 3, and Level 4 courses)		45
TD, NCCER Instrumentation Level 4		45

For more information, contact the Division of Technical Education at 225-216-8367.