



STUDENT LEARNING OUTCOMES INSTRUMENTATION TECHNOLOGY CERTIFICATE

The Instrumentation Technology certificate will develop entry-level skills in industrial instrumentation, maintenance and calibration. Courses combine the technical know-how, the use of state-of-the-art equipment, and hands-on experience necessary for work in a variety of industrial instrumentation fields to include all automated industries such as upstream and downstream oil and gas, mineral technology, power generation, wastewater treatment and HVAC.

Learning outcomes for graduates of the CTC-UAF Instrumentation Certificate program:

1. Each graduate will understand the physics of pressure, temperature, level and flow measurement; mechanical and electrical aspects of instruments used to control dynamics of processes. Dynamics of automatic control including proportional control, automatic reset, derivative action and integral timing.
2. Each graduate will demonstrate knowledge of commonly used process measurement devices, control methods and strategies, and the proper selection, identification, design, installation and operation of instrumentation.
3. Each graduate will demonstrate knowledge of industrial process valve maintenance and instrumentation, including calibration, configuration, troubleshooting, and use of valves with instrumentation
4. Each graduate will demonstrate knowledge of basic fundamentals, terms, and units of DC and AC electrical theory. Graduates will have the ability to use test equipment, hand tools and techniques of soldering.
5. Each graduate will demonstrate the knowledge and ability to develop, construct, and functionally check a process control loop created by the student teams. This is a capstone project for Instrumentation Technology certificate students.
6. Each graduate will meet expected outcomes in communications, computation, and human relations, per the University General requirements.