

INSTRUMENTATION TECHNOLOGY FOR ADVANCED PROGRAMMABLE LOGIC CONTROLLERS, ENHANCED SKILLS CERTIFICATE



Program Information

As machines continue to evolve in digital sophistication, intricately connected and operated by complex control systems, instrument technicians have become indispensable to keeping the wheels of industry turning. Working in a comprehensive industrial computer control lab, students learn how to install, maintain, and troubleshoot intelligent integrated control systems, developing skills highly sought after in chemical plants, refineries, pipeline companies, power plants, water treatment facilities, all types of manufacturing plants, and many more businesses.

Career Opportunities

The primary focus of San Jacinto College's Instrumentation Technology program is to provide the industry with high-quality, trainable, entry-level technicians. Our graduates will find employment in the following industries:

- Chemical plants,
- Oil refineries,
- Oil exploration and production companies,
- Cross-country pipeline companies,
- Electrical power plants,
- Municipal water treatment facilities,
- Manufacturer field technician positions,
- Instrumentation maintenance positions in large buildings or on campus-type facilities,
- Manufacturing plants, and
- Instrumentation sales.

For more information, students may contact 281-998-6350, x1352 or email Joseph.Zwiercan@sjcd.edu

Direct Line Office: 281-478-2799

Campus

Central Campus

Information

Instrumentation Technology training at San Jacinto College falls into three categories: instrumentation installation, general instrument maintenance, and control systems technology.

Instrumentation technology is arguably the most technologically challenging field in industry today. Highly trained instrument technicians are responsible for installing, calibrating, and troubleshooting individual process instruments as well as complete control systems. They are expected to understand the workings of a process as well as the complexity of the control system.

Computer control in the processing industry provides a platform for more sophisticated control strategies and requires connecting intelligent devices together through various networking systems and protocols.

Key facilities of the Instrumentation Technology program at San Jacinto College are equipped with both pneumatic and analog electronic lab control. We also have a 10-station Allen Bradley (AB Compact Logix) Programmable Logic Controller (PLC) lab and a 10-station Emerson Process Management DeltaV™ Distributed Control System (DCS) lab with ten fully operational flowing process instrumented stations. In addition, we have access to a full-sized functioning distillation (propylene glycol and water separation) unit to explore maintenance issues and control strategies.

We have 16 Emerson Performance Learning Platforms (PLP) and students are introduced to these in INCR 1302 Physics of Instrumentation and INTC 2310 Principles of Industrial Measurement II. These consist of Rosemount SMART Transmitters Coriolis, Mag Meters, and Vortex Meters for flow. We have the Meriam, HART 475, & TREX Communicators that are used by the majority of industry, Fluke 787 Digital Multi Meters. A common theme here at the LyondellBasell Center for Petrochemical, Energy, & Technology program is the use of the DeltaV™ DCS as we have the DCS on the following: Emerson PLPs, Hot Unit, DCS Lab, and the Control Room, which operates the fully functioning Propylene Glycol Unit.

Our primary focus is in providing the local processing industry with solid, trainable entry-level technicians. However, our students will have the latitude of working in other related areas such as oil exploration and production, municipal water treatment facilities for cross-country pipeline companies, electrical power plants, and in manufacturer field technician positions.

Students enrolling into San Jacinto College programs with external learning experiences (i.e., clinical, practicum, externship, cooperative, etc.) will be required to comply with the immunization requirements and policies of the clinical/external learning sites to engage in all clinical/external learning experiences. Vaccination requirements at clinical/external learning sites are implemented pursuant to the independent authority of such facilities and are not mandated by San Jacinto College. Failure to meet the immunization requirements mandated by clinical/external learning sites may limit a student's ability to complete the program and/or may delay the student's graduation date. San Jacinto College does not process exemptions, and students should address potential vaccination exemptions directly with the clinical/external learning site.

Enhanced Skills Certificate

The College designed the Enhanced Skills Certificate (ESC) in Instrumentation Technology for Advanced Programmable Logic Controllers for students who have completed the Instrumentation Technology Associate of Applied Science (AAS) degree. Acquiring the ESC will make the student more marketable and well rounded for a career in Instrumentation Technology and/or Analytical Instrumentation.

PLAN OF STUDY

Students may see the Instrumentation Technology, Associate of Applied Science (<https://publications.sanjac.edu/areas-study/construction-industry-manufacturing-transportation/instrumentation-technology-aas/>) page for more information.

First Term		Credits
INCR 1344	Microprocessor Systems Maintenance	3
ELPT 2449	Industrial Automation	4
ELPT 2455	Programmable Logic Controllers II	4
Credits		11
Total Credits		11