

# INSTRUMENTATION TECHNOLOGY

## TECHNICAL

Degree/Certificate: Level 2 Certificate (4 terms)  
Associate of Applied Science (4 terms)  
Enhanced Skills Certificate (2 terms)



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.

## CAREER OUTLOOK



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
- Instrumentation sales

## Median salary for Gulf Coast region



**\$61,760**  
per year

**Mechanical drafter**

\*Source: texaswages.com, Gulf Coast region, 2015

Instrumentation Technician: \$25.00 - \$38.00  
per hour\*

\*Source: Texas Workforce Commission

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Visit our website: [www.sanjac.edu/career/instrumentation](http://www.sanjac.edu/career/instrumentation)

## INSTRUMENTATION TECHNOLOGY (3INST)

### Associate of Applied Science Degree

<i>First Term</i>	<i>Credit</i>
ENER 1240 Employee Success in Energy Industry .....	2
CETT 1302 Electricity Principles .....	3
INCR 1302 Physics of Instrumentation .....	3
TECM 1301 *Industrial Mathematics or Higher .....	3
Speech .....	3
<b>Subtotal</b>	<b>14</b>

<i>Second Term</i>	<i>Credit</i>
ENER 1330 Basic Mechanical Skills for Energy .....	3
OSHT 1320 Energy Industrial Safety .....	3
INTC 1322 Analog Controls I .....	3
INTC 2310 Principles of Industrial Measurements II .....	3
***Humanities or Fine Arts .....	3
<b>Subtotal</b>	<b>15</b>

<i>PostY1Summer</i>	<i>Credit</i>
ETWR 1302 **Introduction to Technical Writing .....	3
ENGL 1301 Composition I .....	3
<b>Subtotal</b>	<b>6</b>

<i>Third Term</i>	<i>Credit</i>
INTC 1355 Unit Operations .....	3
INTC 1315 Final Control Elements .....	3
ELPT 2319 Programmable Logic Cont. I .....	3
***Social and Behavioral Sciences .....	3
<b>Subtotal</b>	<b>12</b>

<i>Fourth Term</i>	<i>Credit</i>
INTC 2330 Instrumentation Systems Troubleshooting or INTC 2388 Internship-Instrumentation Technology/Technician .....	3
INTC 2359 Distributed Control Systems .....	3
INTC 2333 Instrumentation Systems Installation .....	3
CHEM 1305 Introductory Chemistry I (Lec) and CHEM 1105 Introductory Chemistry I (Lab) .....	4
<b>Subtotal</b>	<b>13</b>

Associate of Applied Science Degree Total 60

Capstone Experience: INTC 2330 or INTC 2388;  
Verification of workplace competencies

\* Students desiring to obtain a baccalaureate degree should take MATH 1314 College Algebra. Students entering this program with MATH 1314 or higher may substitute the higher Math course for TECM 1301.

\*\* Students who have successfully completed ENGL 1302 Composition II or ENGL 2311 Technical and Business Writing may receive credit for ETWR 1302.

\*\*\* Courses which satisfy this requirement are listed in the Humanities and Fine Arts, and Social and Behavioral Sciences sections of the Transfer Core Curriculum.

## INSTRUMENTATION TECHNOLOGY (5INST)

### Level 2 Certificate

<i>First Term</i>	<i>Credit</i>
ENER 1240 Employee Success in Energy Industry .....	2
CETT 1302 Electricity Principles .....	3
INCR 1302 Physics of Instrumentation .....	3
*TECM 1301 Industrial Mathematics or Higher .....	3
ENER 1330 Basic Mechanical Skills for Energy .....	3
<b>Subtotal</b>	<b>14</b>

<i>Second Term</i>	<i>Credit</i>
OSHT 1320 Energy Industrial Safety .....	3
INTC 1322 Analog Controls I .....	3
INTC 2310 Principles of Industrial Measurements II .....	3
INTC 1355 Unit Operations .....	3
INTC 1315 Final Control Elements .....	3
<b>Subtotal</b>	<b>15</b>

<i>Third Term</i>	<i>Credit</i>
ETWR 1302 **Introduction to Technical Writing .....	3
ELPT 2319 Programmable Logic Controllers I .....	3
INTC 2330 Instrumentation Systems Troubleshooting or INTC 2388 Internship-Instrumentation Technology/Technician .....	3
INTC 2359 Distributed Control Systems .....	3
INTC 2333 Instrumentation Systems Installation .....	3
<b>Subtotal</b>	<b>15</b>

Level 2 Certificate Total 44

Capstone Experience: INTC 2330 or INTC 2388

Verification of workplace competencies.

\* Students desiring to obtain a baccalaureate degree should take MATH 1314 College Algebra. Students entering this program with MATH 1314 or higher may substitute the higher Math course for TECM 1301.

\*\* Students who have successfully completed ENGL 1302 Composition II or ENGL 2311 Technical and Business Writing may receive credit for ETWR 1302.

## INSTRUMENTATION TECHNOLOGY (EINST)

### Enhanced Skills Certificate

<i>First Term</i>	<i>Credit</i>
INTC 1375 Sample Systems .....	3
INTC 1348 Analytical Instrumentation .....	3
<b>Subtotal</b>	<b>6</b>

<i>Second Term</i>	<i>Credit</i>
INTC 2345 Advanced Analyzers .....	3
INTC 2374 Physical Properties Analyzers .....	3
<b>Subtotal</b>	<b>6</b>

Enhanced Skills Certificate Total 12

Note: For complete program descriptions, please refer to the San Jacinto Community College District Catalog online at [www.sanjac.edu/catalog](http://www.sanjac.edu/catalog).

The San Jacinto College District is committed to equal opportunity for all students, employees, and applicants without regard to race, creed, color, national origin, citizenship status, age, disability, pregnancy, religion, gender, sexual orientation, gender expression or identity, genetic information, marital status or veteran status in accordance with applicable federal and state laws. The following College official has been designated to handle inquiries regarding the College's non-discrimination policies: Vice President of Human Resources, 4620 Fairmont Pkwy., Pasadena, TX 77504; 281-991-2659; [Sandra.Ramirez@sjcd.edu](mailto:Sandra.Ramirez@sjcd.edu).