

INSPECTION TECHNOLOGIES, FIXED EQUIPMENT INSPECTION TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE



Overview

A career in inspection and testing covers many methods, both destructive and nondestructive. The Inspection Technologies program at San Jacinto College allows students to follow their career paths with traditional Nondestructive Testing methods or the inspection of Fixed Equipment such as Pressure Vessels, Piping, Valves, Weld, and Metallurgical testing. These careers are in high demand and pay according to the skill level students attain through education and experience. These skill levels require the type of training students can receive through the Inspection Technologies program at San Jacinto College.

Career Opportunities

Graduates of San Jacinto College's Inspection Technologies program may find employment as:

- AWS - Certified Welding Inspectors (CWI);
- API Inspectors - API 510, API 570, API 577/578;
- Quality Technicians, Inspectors, or Managers;
- Metallurgical, Corrosion, or Coating Technicians;
- Unit Inspectors; and
- SIFE – Source Inspectors Fixed Equipment.

Earning Potential

Wages are based upon experience, skill level, testing method, and a synergy of multiple certifications.

Median Wages Per Year:¹

- Mechanical Integrity Level I \$65,392¹
- Mechanical Integrity Level II \$98,931¹
- Mechanical Integrity Specialist \$120,096¹
- Certified Welding Inspector \$124,797¹
- SIFE - Source Inspector Fixed Equipment \$105,000
- API Inspector 570/510/653 \$150,703¹

¹ Personnel for Quality and Nondestructive Testing (PQNNT) Salary Survey, 2019, for South Central Region (Texas, Louisiana, Oklahoma, New Mexico, Arkansas, and Missouri) [most recent data]

For more information, students may contact the Department Chair of Industrial Technology, Joseph Zwiercan, at 281-478-2799.

Program Director Stephen Rowland, 281-998-6350, x1689.

Campus

Central Campus

Information

Students pursuing the Fixed Equipment Inspection Technology Associate of Applied Science (AAS) degree or Level 2 Certificate can earn the technical training necessary to begin a career in the testing, inspection, and quality fields. The second year of the Fixed Equipment program focuses on inspection of: Welds, Pressure Vessels, Pressure Piping, Valves, and Advanced Metallurgical Techniques.

This degree offers classroom and lab training in:

- VT - Visual Inspection,
- MT - Magnetic Particle Testing,
- PT - Liquid Penetrant Testing,
- UT - Ultrasonic Testing, Radiographic Film Interpretation, and Corrosion,
- Weld Inspection (CWI),
- Pressure Vessel Inspection, Piping and Valve Inspection, and
- Advanced Metallurgy in conformance to the guidelines of American Society for Nondestructive Testing SNT-TC-1A (ASNT), American Petroleum Institute (API), American Welding Society (AWS), and NACE International.

Additional coursework in Standards and Codes, Metrology and Prints, and Metallurgy provides the foundations needed for the diversity and adaptability of skills needed for a successful career and advancement.

The following three courses' advanced subjects require five years' experience to sit for a certification exam. The College designed the courses for both those wanting the knowledge to be able to work to gain experience and those preparing to sit for exams.

- NDTE 2411 Welding Inspection
- NDTE 2439 Pressure Piping and Valve Inspection
- NDTE 2440 Pressure Vessel Inspection

Admission

No admission requirements.

Job entry requirements:

- Pass a drug test on a regular basis;
- Pass a criminal background check;¹
- Some career paths require a TWIC Card; and
- Some career paths require a good driving record.

¹ Requirements vary based on type of offense and years since the offense or the requirements of the facility where the work is being performed.

Plan of Study

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First Term		Credits
QCTC 1470	Introduction to the Inspection Industry	4
METL 1313	Introduction to Corrosion	3
NDTE 1410	Liquid Penetrant, Magnetic Particle and Visual Testing: Level I & II	4
QCTC 1448	Metrology and Prints	4
Credits		15
Second Term		
QCTC 2331	Standards and Codes	3
NDTE 1301	Radiographic Film Interpretation of Weldments	3
NDTE 1405	Introduction to Ultrasonics: Level I & II	4
METL 1401	Introduction to Metallurgy	4
Credits		14
Summer Year One Term		
MATH 1332 or MATH 1314	Contemporary Mathematics (Quantitative Reasoning) ¹ or College Algebra	3
Credits		3
Third Term		
NDTE 2439	Pressure Piping and Valve Inspection	4
NDTE 2411 or WLDG 2480	Welding Inspection or Cooperative Education Welding	4
Select one of the following:		3
SPCH 1311	Introduction to Speech Communication	
SPCH 1315	Public Speaking	
SPCH 1318	Interpersonal Communication	
SPCH 1321	Business and Professional Speech	
Language, Philosophy and Culture (Humanities) or Creative Arts (Fine Arts)		3
Credits		14
Fourth Term		
NDTE 2440	Pressure Vessel Inspection	4
WLDG 2455	Advanced Metallurgy	4
ENGL 1301	Composition I	3
Social and Behavioral Sciences		3
Credits		14
Total Credits		60

¹ May use MATH 1314 College Algebra if transferring to a baccalaureate program.

Capstone Experience: NDTE 2440 Pressure Vessel Inspection