NON-DESTRUCTIVE TESTING TECHNOLOGY

TECHNICAL

Degree/Certificate: Associate of Applied Science (A.A.S.)(5 terms) –
Non-Destructive Testing Technology
Non-Destructive Testing Level 2 Certificate (3 terms)
Non-Destructive Testing Certificate of Technology (2 terms)
Enhanced Skills Certificates (5th term / 6th term)
- Fixed Equipment Specialist
- Quality Analyst
QA Occupational Certificate (2 terms)
- Quality Improvement Associate

If you have a technical mind, you are in luck! Houston is home to the largest petrochemical and refining complex in the nation, and is the center for oil and gas equipment, so the demand for skilled inspection and quality technicians continues to grow!

Graduates of the San Jacinto College non-destructive testing program enter the workforce with training skills that exceed certification requirements, an accomplishment highly prized by the companies that continually hire students directly out of the program.

If you have an eye for detail, a passion for quality, and a commitment to integrity, a degree or certificate in non-destructive testing or quality assurance may be the right path for you!

Non-destructive testing (NDT) is the branch of material sciences where technicians may conduct a variety of examinations or tests utilizing a variety of methods ranging from: Visual (VT), Liquid Penetrant (PT), Magnetic Particle (MT), Ultrasonic (UT), Eddy Current (ET), and Radiographic (RT) Testing.

Our courses are taught exceeding ASNT SNT-TC-1A requirements. In addition to the NDT methods, our program also includes courses for: AWS Certified Welding Inspector (CWI), API Inspector, NACE Corrosion Inspector, and Quality Assurance (QA).

Through these courses students will learn to use tools and equipment associated with these inspection methods. The program covers more than NDT courses, including essential foundations in metallurgy, corrosion, metrology and blueprints, standards and codes, quality assurance and statistical process control.

The inspection of aircraft, trains, oil and gas drilling tools, pipelines, refineries, power plants, nuclear reactors, bridges, dams and building structures all use non-destructive testing (NDT) techniques. Virtually everything that is manufactured uses NDT and quality assurance.

The San Jacinto College NDT technology program:
• Prepares students to work and become certified in NDT, metallurgical or quality positions.
• Assists students in attaining technician jobs in the petrochemical industry, turbine and power generation, manufacturing, structural, aerospace, transportation and many more.

For more information, call, the Contact Center: 281-478-2799 | sanjac.edu
General email: information@sjcd.edu
Visit our website: www.sanjac.edu/NDT

C = Central Campus, M = Maritime Campus, N = North Campus, O = Online and S = South Campus
Revised 11/2017
CAREER OUTLOOK

Graduates of San Jacinto College’s NDT technology program may find employment as:

• NDT Technician in: VT, PT, MT, UT, ET, RFI
• AWS - Certified Welding Inspector (CWI)
• API Inspector
• Quality Technician, Inspector or Manager
• Metallurgical, Corrosion or Coating Technician

Median salary for Gulf Coast region

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

Non-Destructive Testing Specialist median salary:
$60,096 per year *

Nationwide Average Wages Per Year:
NDT Level I $57,807 **
NDT Level II $83,739 **
NDT Level III $103,991 **
Certified Welding Inspector $101,100 ***
Quality Inspector $47,500 ****
Quality Associate $50,000 ****
Quality Supervisor $59,710 ****
Quality Coordinator $66,000 ****
Quality Analyst $92,000 ****

* Source: Texaswages.com, Gulf Coast Region, 2015.
** PQNDT
*** Am. Welding Soc. Payscale Research
**** ASQ QP Fall 2015 Salary Survey

QUALITY IMPROVEMENT ASSOCIATE
(6WLD-QAT)

Occupational Certificate

Persons interested in the field of quality improvement are introduced to Total Quality Management (TQM) concepts and applications as well as statistical testing methods. The students can then use these concepts and methods in industries utilizing auditing practices, quality controls and inspection techniques.

First Term

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCTC 1446 Testing and Inspection Systems</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1309 Integrated Software Applications I</td>
<td>3</td>
</tr>
<tr>
<td>QCTC 1343 Quality Assurance</td>
<td>3</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>10</strong></td>
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Second Term

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMGT 1309 Information and Project Management</td>
<td>3</td>
</tr>
<tr>
<td>QCTC 1448 Metrology and Prints</td>
<td>4</td>
</tr>
<tr>
<td>QCTC 2331 Standards and Codes</td>
<td>3</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

Occupational Certificate Total: **20**

Capstone Experience: QCTC 2331
NON-DESTRUCTIVE TESTING TECHNOLOGY (4WLD-NDT)

Certificate of Technology
Students pursuing the non-destructive testing program courses can earn the technical training necessary to begin working in the testing and inspection field.

San Jacinto College offers classroom and lab training in:

Additional coursework in: standards, metallurgy and metrology provide the foundations needed for adaptability in the workplace.

The training prepares students for entry-level work in non-destructive testing.

First Term Credit
QCTC 1446 Testing and Inspection Systems ........................................4
NDTE 1410 Liquid Penetrant/Magnetic Particle and Visual Testing Level 1 & 2 ........................................4
NDTE 1405 Introduction to Ultrasonics: Level 1 & 2 .............................4
ETWR 1302 Introduction to Technical Writing ......................................3
Subtotal 15

Second Term Credit
WLDG 1437 Introduction to Welding Metallurgy ..................................4
QCTC 2331 Standards and Codes .......................................................3
NDTE 1301 Film Interpretation of Weldments ......................................3
QCTC 1448 Metrology and Prints .......................................................4
Subtotal 14

Certificate of Technology Total 29

Capstone Experience: QCTC 2331

NON-DESTRUCTIVE TESTING TECHNOLOGY (3WLD-NDT)

Level 2 Certificate

First Term Credit
QCTC 1446 Testing and Inspection Systems ........................................4
NDTE 1410 Liquid Penetrant/Magnetic Particle Testing: Level 1 & 2 ........4
NDTE 1405 Introduction to Ultrasonics: Level 1 & 2 .............................4
ETWR 1302 Introduction to Technical Writing ......................................3
Subtotal 15

Second Term Credit
WLDG 1437 Introduction to Welding Metallurgy ..................................4
QCTC 2331 Standards and Codes .......................................................3
NDTE 1301 Film Interpretation of Weldments ......................................3
QCTC 1448 Metrology and Prints .......................................................4
Subtotal 14

PostY1Summer
NDTE 1454 Intermediate Ultrasonics Flaw Det .................................4
Subtotal 4

Third Term Credit
WLDG 2455 Advanced Metallurgy ....................................................4
NDTE 1440 Eddy Current Testing .......................................................4
NDTE 2401 Advanced Ultrasonics .....................................................4
Subtotal 12

Level 2 Certificate Total 45

Capstone Experience: NDTE 2401

NON-DESTRUCTIVE TESTING TECHNOLOGY (5WLD-NDT)

Level 2 Certificate

First Term Credit
QCTC 1446 Testing and Inspection Systems ........................................4
NDTE 1410 Liquid Penetrant/Magnetic Particle Testing: Level 1 & 2 ........4
NDTE 1405 Introduction to Ultrasonics: Level 1 & 2 .............................4
***ETWR 1302 Introduction to Technical Writing ..................................3
Subtotal 15

Second Term Credit
WLDG 1437 Introduction to Welding Metallurgy ..................................4
QCTC 2331 Standards and Codes .......................................................3
NDTE 1301 Film Interpretation of Weldments ......................................3
Speech ...............................................................................................3
Subtotal 13

PostY1Summer
NDTE 1454 Intermediate Ultrasonics Flaw Det .................................4
Subtotal 4

Third Term Credit
WLDG 2455 Advanced Metallurgy ....................................................4
NDTE 1440 Eddy Current Testing .......................................................4
NDTE 2401 Advanced Ultrasonics .....................................................4
Subtotal 12

Level 2 Certificate Total 45

Capstone Experience: NDTE 2401

Associate of Applied Science Degree
Students pursuing the Non-Destructive Testing Associate of Applied Science degree can earn the technical training necessary to begin working in the testing, inspection and quality fields.

San Jacinto College offers classroom and lab training in:

Additional coursework in: standards, metallurgy and advanced ultrasonics provide the foundations needed for the diversity and adaptability of skills needed in the workplace.

This training prepares students for entry-level work in non-destructive testing, inspection and quality careers in such industries as: petrochemical, fabrication, maintenance, construction, turbine and aviation, machining, metal working, quality labs and metallurgical testing.

First Term Credit
QCTC 1446 Testing and Inspection Systems ........................................4
NDTE 1410 Liquid Penetrant/Magnetic Particle Testing: Level 1 & 2 ........4
NDTE 1405 Introduction to Ultrasonics: Level 1 & 2 .............................4
***ETWR 1302 Introduction to Technical Writing ..................................3
Subtotal 15

Second Term Credit
WLDG 1437 Introduction to Welding Metallurgy ..................................4
QCTC 2331 Standards and Codes .......................................................3
NDTE 1301 Film Interpretation of Weldments ......................................3
Speech ...............................................................................................3
Subtotal 13

PostY1Summer
NDTE 1454 Intermediate Ultrasonics Flaw Det .................................4
Subtotal 4

Third Term Credit
WLDG 2455 Advanced Metallurgy ....................................................4
NDTE 1440 Eddy Current Testing .......................................................4
NDTE 2401 Advanced Ultrasonics .....................................................4
Subtotal 12

Level 2 Certificate Total 45

Capstone Experience: NDTE 2401
**PostY1Summer**

*Humanities or Fine Arts .......................................................... 3
Subtotal ................................................................. 3

**Third Term**

QCTC 1448 Metrology and Prints ............................................. 4
NDTE 1454 Intermediate Ultrasonics: Flaw Detection and Sizing ............................................. 4
**MATH 1332 Contemporary Mathematics (Quantitative Reasoning) or MATH 1314 College Algebra or Higher ............................................. 3
*Social and Behavioral Sciences ............................................. 3
Subtotal ................................................................. 14

**Fourth Term**

WLDG 2455 Advanced Metallurgy ............................................. 4
NDTE 1440 Eddy Current Testing ............................................. 4
NDTE 2401 Advanced Ultrasonics ............................................. 4
ENGL 1301 Composition I .......................................................... 3
Subtotal ................................................................. 15

Associate of Applied Science Degree Total ............................................. 60

Capstone Experience: NDTE 2401

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

** May use MATH 1314 College Algebra or Higher if transferring to a baccalaureate program.

*** May use ENGL 1302, or ENGL 2311 if transferring to a baccalaureate program. Students who have successfully completed ENGL 1302 or ENGL 2311 may receive credit for ETWR 1302.

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**QUALITY ANALYST (EWLD-NDT)**

**Enhanced Skills Certificate**

The Quality Analyst Enhanced Skills Certificate in Non-Destructive Testing is designed for the student who has completed the Non-Destructive Testing Associate of Applied Science degree.

**First Term**

QCTC 1341 Statistical Process Control ............................................. 3
QCTC 1343 Quality Assurance ............................................. 3
BMGT 1309 Information and Project Management ............................................. 3
Enhanced Skills Certificate Total ............................................. 9

**FIXED EQUIPMENT SPECIALIST (EWLD-FXEQP)**

**Enhanced Skills Certificate**

The Fixed Equipment Specialist Enhanced Skills Certificate in Non-Destructive Testing is designed for the student who has completed the Non-Destructive Testing Associate of Applied Science degree.

**First Term**

NDTE 2411 Preparation for Certified Welding Inspector Exam ............................................. 4
NDTE 2339 Pressure Piping Inspection ............................................. 3
NDTE 2470 Pressure Vessel Inspection ............................................. 4
Enhanced Skills Certificate Total ............................................. 11

+ These advanced subjects require 5 years experience to sit for a certification exam. The courses are designed for both those wanting the knowledge to be able to work to gain experience and those preparing to sit for exams.

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Note: For complete program descriptions, please refer to the San Jacinto Community College District Catalog online at 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.