

Nondestructive Testing

Degree Type

Certificate

****Effective Fall 2023, GBCC will not be accepting any new students into the Nondestructive Testing (NDT) Certificate program at this time.***

Nondestructive testing (NDT) is the examination, test, or evaluation of a part without destroying or altering the part in any way, for the purpose of determining whether conditions exist that might have an effect on the usefulness of the part. The goal of this certificate program is to prepare students for employment as high-quality entry-level technicians within the diverse industries that NDT serves. This program will provide technical training in the inspection methods most commonly used in the industries in Southern and Seacoast NH: radiography (RT), ultrasonic (UT), and liquid penetrant (PT), visual inspection (VT), Magnetic Particle Testing (MT), Eddy Current Testing (ET), and Digital Radiographic Testing (DRT). The NDT courses are developed using the American Society for Nondestructive Testing, Inc., and National Aerospace Standard (NAS), to meet formal training requirements. Industry certification as an NDT Technician must be provided by the employer. Requirements for certification as an NDT Technician include a specific number of classroom (formal) training hours for each inspection method, plus a specific number of hours of experience on the job. This program is designed to meet the requirements of **classroom hours** for level II technicians without previous level 1 certification. On the job experience must be completed after being hired by the company who will do the actual certification.

Admission Requirements

1. Complete an application for the program.
2. Provide proof of high school completion or equivalent.
3. Provide an official copy of prior college transcripts if appropriate.

Prior experience in or knowledge of manufacturing is recommended.

Dual Enrollment

Students enrolled in the NDT Certificate program may elect to enroll in the Associate Degree in Technical Studies. Dual enrollment is contingent upon active or graduate status of the certificate. Completion of the NDT certificate satisfies the requirement for the technical specialty core of the Technical Studies degree.

Program Outcomes

The goal of the NDT Technology certificate is to prepare students for entry-level jobs in nondestructive testing. Students completing the program may continue to earn an Associate Degree in Technical Studies. After successful completion of the program, students will be able to:

- Meet the number of hours of classroom training required for certification once on the job training is done with an employer.
- Explain the skills, knowledge, ability, and qualifications required of the NDT technician.
- Understand the origins and classifications of discontinuities.
- Demonstrate proficiency with the principles and practices of the applicable test method and techniques, including ability to process parts, document results, and perform equipment standardization in accordance with approved work instructions.
- Demonstrate ability to properly perform a field calibration test and adjustment, evaluation for acceptance or rejection determinations according to written instructions, and record results.

- Demonstrate the ability to carry out the duties of an entry level NDT technician or NDT trainee.
- Select and explain appropriate testing methods for various situations and explain advantages and limitations of that method.

Health, Safety, and Internship Considerations

The program includes work in a nondestructive testing lab where potentially hazardous equipment and materials are used. Students will be taught industry standards for safety and will be expected to follow all safety procedures. Personal protective equipment must be worn. Students will provide their own safety glasses and boots or shoes.

Technical Standards

This program includes work in manufacturing labs and requires participants to physically perform the functions of reaching, walking, climbing, and standing, safely lifting up to 20 lbs., the ability to hear equipment and alarms, and ability to visually inspect parts.

Transfer Credit Policy

In addition to Great Bay transfer credits policies, transfer of courses in the NDT program will be evaluated by the program coordinator on an individual basis.

Certificate Program First Semester

Item #	Title	Theory Hours	Lab Hours	Credits
MANF120G	Technical Blueprint Reading	1	2	2
	MATH145G/147G	4	0	4-5
NDT110G	Introduction to Nondestructive Testing	2	2	3
	CIS110G or CIS107G	2	2	3-4
MANF230G	Manufacturing Ethics	1	0	1
	Sub-Total Credits	10-11	6-8	13-15

Additional Coursework

Item #	Title	Theory Hours	Lab Hours	Credits
MANF254G	Quality Inspection and CMM Operator	2	2	3
	Sub-Total Credits	2	2	3

NDT Methods Courses

Select 10 credits:

Item #	Title	Theory Hours	Lab Hours	Credits
NDT212G	Ultrasonic Inspection	3	2	4
NDT214G	Radiographic Testing	3	2	4
NDT210G	Liquid Penetrant Testing	1	2	2
NDT205G	Visual Testing	3	0	3
NDT211G	Magnetic Particle Testing	2	0	2
NDT215G	Digital Radiographic Testing	3	0	3
NDT220G	Eddy Current Testing	3	2	4

Curriculum Recommendations

A higher-level CIS course may be substituted for CIS110G Introduction to Computers. Recommended substitutions are CIS111G Computer Technologies, or CIS156G Computer Applications in Business.

A higher MATH course may be substituted for MATH145G Quantitative Reasoning.

Total Credits	26-28
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