



American Society for Nondestructive Testing
Greater Los Angeles Section
at
Don Bosco Technical Institute
www.asnt-glas.org • www.boscotech.edu



ASNT-GLAS 2012 Continuing Education Program

Courses designed to advance the proficiency of those working in Nondestructive Testing

Celebrating over 50 years of ASNT classes at Don Bosco Technical Institute!

Register by mail or fax anytime

or

Register early in person

in building 600 (Room 609)
from 6:00 p.m. to 9:00 p.m.
on the following dates:

Spring Early Reg Nite: Tues, Feb. 21, 2012

Fall Early Reg Nite: Tues, Aug. 28, 2012

See registration form (pg. 7) for fees and
early registration discounts.

For further information write

ASNT - GLAS Education Committee
1151 San Gabriel Boulevard
Rosemead, California 91770-4299

24 hour answering service

(626) 940-2114

Fax: (626) 940-2001

E-mail: asnt@boscotech.edu

Classes offered twice a year

Most classes take place on
Thursday evenings from
6:00 p.m. to 9:00 p.m. or 7:00–10:00 p.m.*

Spring session: Thursday March 1, 2012 to
Thursday May 24, 2012

Fall session: Thursday September 6, 2012 to
Thursday December 6, 2012

* On the first night of classes, all classes
begin at 7:00 p.m.

Most classes held on the campus of

Don Bosco Technical Institute
1151 San Gabriel Boulevard
Rosemead, California 91770-4299

Chairpersons

Chairman: Fred J. Padilla

Vice Chairman: Robert Higgs

ASNT-GLAS, including the Educational Committee, is a tax-exempt, nonprofit 501(c) (3) organization

Tax Deduction: An income tax deduction may be allowed for educational expenses (including registration, travel and meals undertaken to maintain and improve professional skills—Treasury Regulation 1.162-5).



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**ASNT Education Committee
Greater Los Angeles Section Inc.
Education Program Course List**

We are proud to present our 102nd Education Program. Over 17,250 students have attended the seminars from the greater Los Angeles area, as well as from Bakersfield, Edwards Air Force Base, Las Vegas, and San Diego. Many companies, government agencies, vendors, and suppliers have sponsored their employees in attending these training courses.

The courses offered consist of classroom lectures, laboratory workshops, and field trips. It is the purpose of the education program to provide quality instruction on both the theoretical and the practical areas of nondestructive testing.

COURSES OFFERED

Most classes meet on Thursday evenings except where noted. All NDT courses are forty hours in length and satisfy the "general" requirements of SNT-TC-1A 2006 Edition and NAS 410.

**Course #101
Introduction to Materials Processes
& Nondestructive Testing**

Covers metallurgical fundamentals of materials and processes as related to nondestructive testing. Introduction to penetrant, magnetic particle, radiography and ultrasonics.

Prerequisite: No course prerequisite, but basic English language skills required.

Required Texts: *Metallurgy Fundamentals, General Dynamics PI-4-1, Guide for N.D.T.*

**Course #102A
Radiography I**

This first course covers the theoretical and basic fundamentals of radiography with one practical laboratory session. Subjects covered include atomic structure, making a radiograph, radiation safety, applications of x and gamma radiation, darkroom practice, and enough material to take the SNT-TC-1A radiography test for Level I classification.

Prerequisite: 101 or documented equivalent.

Required Texts: *General Dynamics PI-4-6, Vol. #1, 2, 3, 4 & 5*

Optional Texts: *General Dynamics CT-6-6, Questions and Answers Radiography*

Course #102B

Radiography 2 (Usually meets 6–9 p.m.)

This second course covers basic radiographic equipment and methods of making radiographs, as well as technique development. Both x-ray machines and isotope cameras are covered. X-ray units are available for laboratory sessions. Processing is introduced and practiced along with methods for correcting common technique problems, specification compliance and practical application of formulas.

Prerequisite: 102A or documented equivalent required.

Required Texts: *General Dynamics CT-6-6, PI-4-6 Vol. #3 & 4*

Course #102C

Radiography 3

This third course provides the serious student the opportunity to apply the general principles of radiographic testing in a laboratory environment. Students will operate laboratory equipment, prepare charts, process films, develop techniques and familiarize themselves with related equipment. Radiation safety will be stressed along with an introduction to film interpretation.

Prerequisite: 102B or documented equivalent required.

Required Texts: *General Dynamics PI-4-6 Vol. #2, 5 RT Math Formulas*

Course #103A

Ultrasonic I (Usually meets 6:30–9:30 p.m.)

This first course provides fundamental instructions and concepts of ultrasonics in modern industry. Especially useful for those with little or no experience in ultrasonic inspection.

Prerequisite: 101 or documented equivalent required.

Required Texts: *General Dynamics PI-4 Vol. #1, 2, 3, Question and Answers Book C*

Optional Text: *CT-6-4*

Course #103BC

Ultrasonic 2 (May meet 6:00–9:00 p.m.)

This course is designed to augment knowledge obtained in Ultrasonic I, with more advanced coverage of practical and theoretical considerations. Contact and immersion methods, both longitudinal wave and shear wave, using conventional and computer-assisted equipment, with an emphasis on C-scan and B-scan inspection and interpretation, will be covered.

Prerequisite: 103A or documented equivalent required.

Required Texts: L.A. Section UT Training Manual, SNT-TC-IA UT Questions and Answers Book C

Optional Texts: General Dynamics CT-6-4, PI-4 Vol#3, UT Math Formulas

Course #104A (Meets twice per week, 6–9 p.m.)
Magnetic Particle & Penetrant Inspection I

This course will satisfy the formal classroom training requirements for NAS 410 (latest revision) and SNT-TC-IA for Level I certification. It is designed to provide instructions and practical demonstrations of test methods used in industry.

Prerequisite: 101 or documented equivalent required.

Required Texts: PTP Penetrant and Magnetic Particle Student Packages

Recommended Texts: SNT-TC-IA Questions and answers Book B and D

*** Note: Courses 104A and B can be taken in the same semester. Course 104A runs for the first 6 weeks. Course 104B runs for the second 6 weeks. ***

Course #104B (Meets twice per week, 6–9 p.m.)
Magnetic Particle & Penetrant Inspection II

*** Note: Meets the **additional** training hours for compliance to NAS 410 (latest revision) and SNT-TC-IA***

This course will prepare students for Level II examinations. It will provide practical experience in developing techniques and process controls as well as specification review and defect evaluation. Students will be trained to interpret various types of standards to ensure proper processing techniques.

Prerequisite: 104A or documented equivalent

Required Texts: ASTM-E1444, ASTM-E1417, MILSTD.1907

Recommended Texts: PTP Penetrant and Magnetic Particle Student Packages, ASNT Level II Study Guides Magnetic Particle and Penetrant Inspection

Course #104C
VT, MT-PT Defect Evaluation

This course is designed for nondestructive testing and engineering personnel. The student will evaluate various types of discontinuities and indications in castings, wrought products, and weldments. Understanding of how discontinuities are presented in ingots, blooms, slabs, billets, production hardware as well as nomenclature of terminology will be covered. This course will view discontinuities under

blacklight as well as by visual appearance.

Prerequisite: 101 and 104A or documented equivalent required.

Required Texts: General Dynamics PI-4-1, CT-6-2, Magnetic and Penetrant Defect Evaluation

Optional Text: Principles of Magnetic Particle Inspection

Course #104D
Visual and Optical Inspection

This course will satisfy the formal classroom training requirements for SNT-TC-IA Level I and Level II certification. Topics covered will include fundamentals of visual and optical testing, factors that affect visual and optical testing, and equipment used, such as boroscopes, fiber scopes, and other visual inspection instruments.

Prerequisite: None

Required Text: None

Course #106
Eddy Current Inspection

This course presents a basic presentation of eddy current inspection as presently used in industry. Theory, practical application and actual demonstrations are given.

Prerequisite: 101 and 104A or documented equivalent required.

Required Texts: General Dynamics CT-6-5, PI-4-5

Course #107
Weld Inspection (Usually meets 6–9 p.m.)

This course will prepare students to perform and document weld inspection. Nondestructive testing, visual inspection, blueprint reading, hand tool use, interpretation of specifications and welding documentation will be the primary topics. In addition, welding processes, related defects and corrective measures will be stressed. This course will provide a basic guide to the inspection of welds and evaluation of related documentation. The course content is pertinent for engineers and supervisory personnel. It will aid in preparation for the American Welding Society Certified Welding Inspection examination.

Prerequisite: None.

Required Text: AWS Certification Manual for Welding Inspectors

Optional Texts: Modern Welding, AWS Visual Inspection Workshop Reference Manual, AWS Welding Inspection Technology Sample CWI Fundamentals Examination, AWS Guide for Nondestructive Examination of Welds.

Course #114 Geometric Dimensioning & Tolerancing ASNI Y14.5M

This course is designed to provide engineers, designers, manufacturers, managers, and machinists with the technical knowledge and skills to interpret and apply geometric dimensioning and tolerancing (GD&T). Special emphasis will be placed on datums, positions and profile tolerancing. GD&T learning objectives will be accomplished through practical application worksheets on all geometric controls. This course will also focus on the latest specification of ANSI Y14.5M and will bring to light the differences from the previous specification of ANSI Y14.5M

Prerequisite: *Blueprint reading background or course 115*

Required Text: *Geometrics*

Course #115 Basic Blue Print Reading

This course will provide instruction in the fundamentals of interpreting orthographic type drawings used typically throughout the aerospace industry with emphasis on visualization, view rotation and the meaning and usage of lines. Includes a demonstration and practice in interpreting assembly, installation and fabrications (dimensional and unidimensional) drawing.

Prerequisite: *None.*

Required Text: *Print Reading for Industry*

Course #116 Introduction to Mechanical Testing

This class will cover all forms of hardness testing including rockwell normal, rockwell superficial, microhardness, brinell hardness, tensile testing, and electrical conductivity testing.

Prerequisite: *None.*

Required Text: *Metallurgy Fundamentals*

Course #202 Radiographic Film Interpretation

This course provides fundamental instruction in the interpretation of radiographs of castings, weldments, composites, and electronic components. Use of interpretation aids and acceptance criteria will also be covered.

Prerequisite: *102A or documented equivalent.*

Required Texts: *Materials and Processes for NDT Technology, Industrial X-Ray Interpretation*

Course #301 Nuclear Radiological Health & Safety

Covers both lecture and laboratory in radiation safety for gamma and x-ray radiography. This course is accredited by the state of California and meets the requirements for 40 hours training in accordance with Title 17, Chapter 5, Sub Chapter 4 of the health and safety code. This course meets the 40 hour education requirement to qualify for taking the IRRSP examination. No absences permitted. (This course may be available to groups at off-site locations.)

Prerequisite: *None*

Required Texts: *Title 17, Chapter 5, Subchapter 4 of California Health and Safety Code, 10 CFR 20, Case Histories of Radiation Events, Industrial Radiography Radiation Safety.*

Course # 400 Preparation for Level III Basic

This course provides advanced instruction on materials and processes such as casting, welding, forging, heat treating, machining and chemical processing related to nondestructive testing. Review NDT methods and SNT-TC-1A & CP-189

Prerequisite: *Level II equivalent in an NDT discipline.*

Required Texts: *Materials and Processes for NDT Technology, Level III Basic Study Guide, SNT-TC-1A, CP-189*

Course #401 Preparation for Level III Radiography

This course provides advanced instruction in radiography and radiation health and safety to candidates for ASNT or other Level III certification.

Prerequisite: *80 hours classroom study, or courses 102A, B and C to equal SNT-TC-1A level II Radiography documented requirements or instructor and educational committee consent.*

Required Texts: *NDT Handbook V3, Radiography Level III Study Guide*

Course #402 Preparation for Level III Ultrasonic

This course provides advanced instruction in ultrasonics for ASNT or other level III certification.

Prerequisite: *80 hours classroom study or course 103A, B and C to equal SNT-TC-1A Level II ultrasonics documented requirements or instructor and education committee consent.*

Required Texts: *NDT handbook Vol 7, Ultrasonics Level III Study guide.*

**Course #403
Preparation for Level III Penetrant
and Magnetic Particle**

This course provides advanced instruction in penetrant and magnetic particle to candidates for ASNT or other Level III certification.

Prerequisite: *Course #104A and 400 or equivalent.*

Required Texts: *Level III Magnetic Particle Study Guide, Level III Penetrant Study Guide*

Optional Texts: *NDT Handbook Vol. #2—Liquid Penetrant Tests, NDT Handbook Vol. #6—Magnetic Particle Testing, McMaster Vol. I & II*

**Course #404
Introduction to Failure Analysis**

This course will provide the student with the basic skills required for problem solving and failure analysis of both metals and non-metals. Topics will include optical—visual inspection techniques, the basic principles and procedures for performing a failure analysis, sources of failure, fracture modes and mechanisms, as well as failures in specific product forms. In addition, an introduction to SEM/EDX systems and state of the technology surface analysis techniques will be provided at off-campus facilities. Many case histories will be discussed.

Prerequisite: *101 or documented equivalent.*

Required Text: *None*

**BOOKS AVAILABLE FOR SALE ON REGISTRATION
AND THURSDAY NIGHTS ONLY!**

For NDT employment listings:

www.asnt-glas.org click "Employment"

Also see our NDT Jobs Board in room 609

Grading Criteria

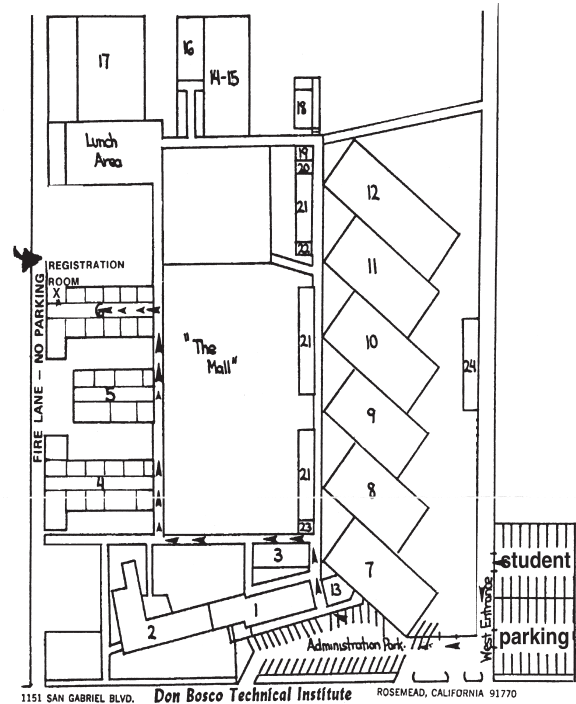
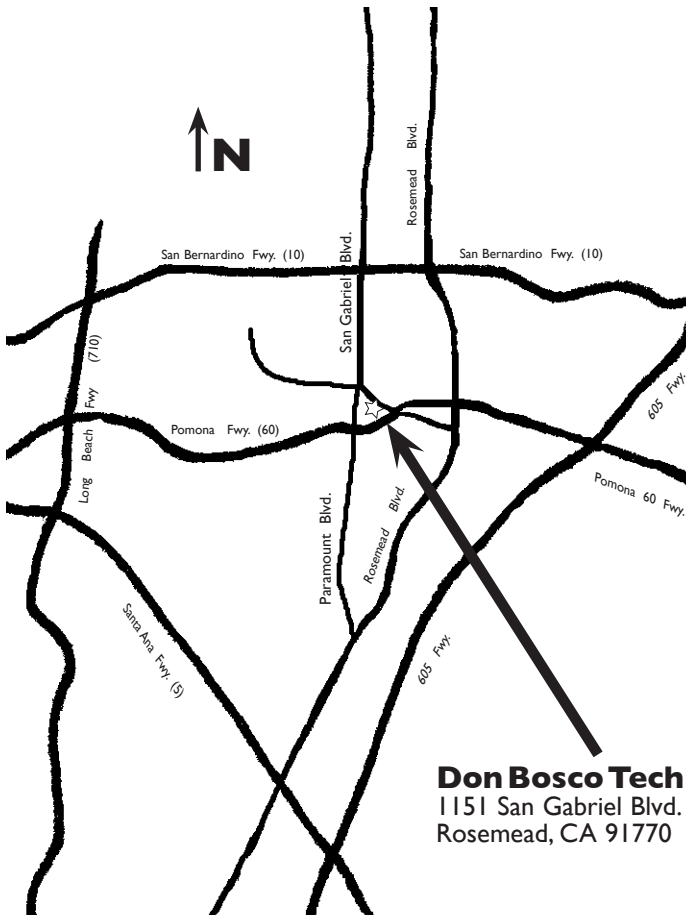
The grade for a course is computed as follows:

1. Attendance—Because of the California Education Code, section 25518.5, if the student has one unexcused absence and work is not made up, he or she may be dropped from the class.
2. Homework and tests—The average of homework and tests will count as 50% of the final class grade.
3. Final Exam—Final exam will count as 50% of final grade.
4. Passing score is a minimum grade average of 70%.

BOOKS AVAILABLE FOR SALE ON REGISTRATION AND THURSDAY NIGHTS ONLY!

Parking and Classroom Information

Students may park in the lot designated "student parking" or after 5 PM in the lot designated "administration parking". (See map below) All other lots are off-limits to ASNT students. Violators may be towed. Don Bosco Technical Institute and the ASNT Education Committee assume no liability arising from fire, theft, damage or loss of any article in vehicles.



- | | | |
|---------------------------|----------------------------|-------------------------|
| 1. Administration Office | 9. Materials Science | 17. Gymnasium |
| 2. Salesian Residence | 10. Manufacturing | 18. Band Room |
| 3. Library | 11. Construction | 19. Student Book Store |
| 4. De Sales Hall (400) | 12. Power & Transportation | 20. Activities Room |
| 5. Science Building (500) | 13. Infirmary | 21. Tech. Lecture Halls |
| 6. D'Amato Hall (600) | 14. Strub Hall | 22. Chaplain's Office |
| 7. Electronics | 15. Design | 23. Co-Op Office |
| 8. Graphics | 16. Chapel | 24. Maintenance |

Registration Information

\$25 discount by paying on or before Early Registration Night. Also, \$25 discount for ASNT members. Corporate membership allows only three (3) members on the corporate mailing list to register at the ASNT member fee. To be eligible for ASNT member fee, a current membership card must be presented at the time of registration. Class cancellation or combination is subject to minimum enrollment.

Registration fee refunds:**Before the 1st class: 100%****After the 1st class: 75%****After the 2nd class: 50%****After the 3rd class: No Refund**

It has become necessary that the registration fee be paid at the time of registration to eliminate invoicing and permit closing financial activities of the program. We must have your cooperation in this matter. Students with outstanding debts

will have holds placed on their exams and records.

- Registration by mail/fax must arrive prior to first day of class for early registration discount.
- Or register in person in room 609 on Early Registration Night from 6:00 p.m. to 9:00 p.m. for the early registration discount.
- Please plan to arrive by 6:00 p.m. on the first night of classes if you have not registered yet and/or if you need to purchase textbooks.

Registration Fees (paid on 1st or 2nd class)

All courses

\$425.00 (ASNT Members)

\$450.00 (Non-Members)

Early Registration Fees (paid before 1st class)

All courses

\$400.00 (ASNT Members)

\$425.00 (Non-Members)

ASNT - GLAS Registration Form

Please register me in the following course. I have noted the prerequisite(s) for each course and attached is copy of the certificate or evidence of completion for the prerequisite(s) or corequisite(s). Please print in **CAPITAL LETTERS** as you would like it to appear on your permanent record.

 Fall Session Spring Session

Course Number: _____ Title: _____

Name: _____ Social Security # (Last four digits only): _____

ASNT Member Number: _____ Not a Member?

 I would like to become an ASNT Member

Send materials to my:

 Home Work

Home Address: _____ City: _____ State: _____ Zip: _____

Employer: _____

Address: _____ City: _____ State: _____ Zip: _____

Home Phone: _____ Cell: _____ Work: _____

Email: _____

Registration fees paid by: Cash Check Credit/Debit Self EmployerBill to my: AE VISA M/C Card #: _____ Expiration Date: _____ Discover

Signature: _____

Mail to: ASNT - GLAS Education Committee
1151 San Gabriel Blvd.
Rosemead, CA 91770-4299

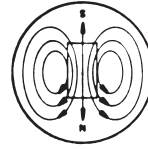
Or Fax to: (626)940-2001**Registration fees payable to:** ASNT -GLAS Education Committee

The Education Committee of the ASNT Greater Los Angeles Section Incorporated is an affiliate of the American Society for Nondestructive Testing, Inc. (ASNT). Statements, other expressions of opinion or fact, as well as legal obligations undertaken herein, are solely those of the affiliate and not of ASNT.



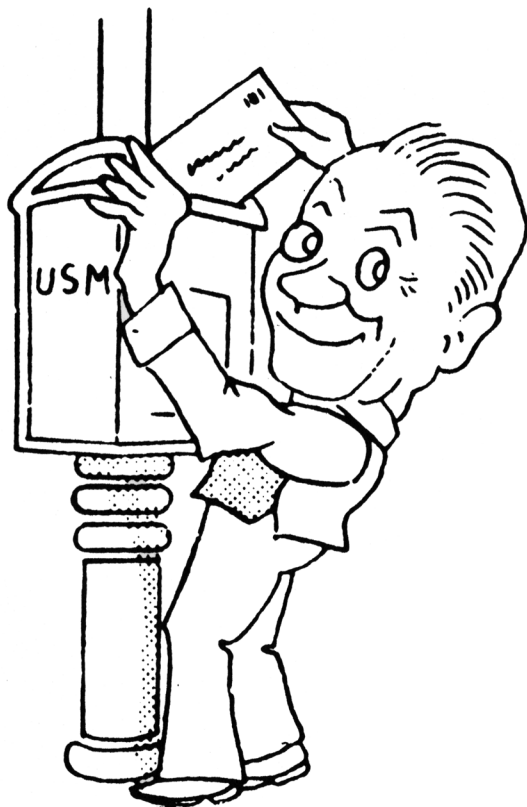
Route:

- Training Director
- Quality Assurance Manager
- Nondestructive Inspection Manager
- Manufacturing & Processing Manager
- Engineering Manager



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ASNT - GLAS Education Committee
 1151 San Gabriel Boulevard
 Rosemead, California 91770-4299

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**"MAIL, E-MAIL, OR FAX YOUR
REGISTRATION FORM TODAY!"**

**CELEBRATING OVER 50 YEARS
OF ASNT CLASSES AT BOSCO TECH !**

