



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



ASNT-GLAS 2020 Continuing Education Program

Courses for those interested in or working in Nondestructive Testing or related fields

Celebrating 59 years of ASNT classes at Don Bosco Technical Institute!

**Register by mail, fax or
email 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: Mon., Feb. 24, 2020

Fall Early Reg. Nite: Mon., Aug. 24, 2020

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

Location and Contact Information

ASNT - GLAS Education Committee

1151 San Gabriel Boulevard

Rosemead, California 91770-4299

Phone: (626) 940-2114

Fax: (626) 940-2001

E-mail: ASNTGLASBosco@gmail.com

www.asnt-glas.org

www.boscotech.edu

Classes Offered Twice a Year

Most classes meet on Monday and/or
Thursday evenings from 6:00-9:00 pm, 6:30-
9:30 pm or 7:00-10:00 pm*

**On the first night of the semester, classes begin at 7pm.
Courses 101, 107, 115, 116 and 301 begin Mon., March 9.*

Spring session: Thursday, March 5, 2020 to
Thursday, May 28, 2020
(No classes on Memorial Day)

Fall session: Thursday September 3, 2020 to
Thursday December 3, 2020
(No classes on Halloween or Thanksgiving)

Most Classes Held on Campus of

Don Bosco Technical Institute

1151 San Gabriel Boulevard

Rosemead, California 91770-4299

Administration

Chair: Fred J. Padilla

Vice Chair: Paul Cole Padilla

Tax Deduction: ASNT-GLAS does not issue 1098Ts, but a miscellaneous income tax deduction may be allowed for educational expenses. Consult your tax advisor.

State of California Reimbursement Program: Companies can receive reimbursement for training of employees. See etp.ca.gov

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



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ASNT-GLAS Education Committee Education Program Course List

We are proud to present our 118th Education Program. Over 19,150 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 and may include laboratory sessions or 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 classroom training requirements of SNT-TC-1A and NAS 410.

Course #101

Introduction to Materials Processes & Nondestructive Testing (Monday nights)

Spring course begins Mon., March 9 (not March 5)

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-I

Optional Texts: Guide for NDT

Course #102A

Radiography I (Thurs. nights)

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: PTP RT Student Package

Optional Texts: PTP RT PIVols I-V, Q&A Radiography, CT-6-6, DuPont NDT Radiography

Course #102B

Radiography II (Usually Thurs., 6-9pm)

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 Texts: PTP PI Vols. I-V

Optional Texts: RT Level II Study Guide, RT Q&A

Course #103A

Ultrasonic I (5 Saturdays, 8am-4pm, in Ontario)

Spring course begins Sat., March 14 (not March 5)

This first course provides fundamental instructions and concepts of ultrasonics in modern industry.

Prerequisite: 101 or documented equivalent

Required Texts: UT Student Package; UT Q&A

Optional Texts: UT CT book, UT PI books, UT Math Formulas & References, Math Review book

Course #103BC

Ultrasonic II (Usually Thurs. nights)

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 Texts: UT Student Package

Optional Texts: UT Q&A, UT PI books, UT Math Formulas & References, UT II Study Guide, ASNT-GLAS UT

Course #103D (Course dates/time TBD)

Phased Array Ultrasonic Testing I

This course covers the basic theory and equipment operation associated with phased array and is taught using portable phased array systems.

Note: To ensure each student adequate lab time with phased array units, enrollment may be capped at the first 14 PAID students. Classes may take place off campus.

Prerequisite: 103BC or documented equivalent

Course #103E (Course dates/times TBD) **Phased Array Ultrasonic Testing II**

This course covers the advanced theory and equipment operation associated with phased array and is taught using portable phased array systems.

Note: To ensure each student adequate lab time with phased array units, enrollment may be capped at the first 14 PAID students. Classes may take place off campus.

Prerequisite: 103D or equivalent

Course #104A (Meets Mon. & Thurs., 6-9 p.m.) **Magnetic Particle & Penetrant Inspection I**

This course satisfies the formal classroom training requirements for NAS 410 (latest revision) Level I certification and for SNT-TC-1A Levels I and II certification. (20 hrs. PT; 20 hrs. MT) It is designed to provide instructions and practical demonstrations of test methods used in industry.

Prerequisite: 101 or documented equivalent

Required Texts: MT & PT Student Packages

Optional Texts: MT & PT Q&A, MT & PT Level II Study Guides

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

Course #104B (Meets Mon. & Thurs., 6-9 p.m.) **Spring course begins late Apr./early May, date TBD**

Magnetic Particle & Penetrant Inspection II

*** Note: Meets the **additional** Level II training hours for compliance to NAS 410 (16 hrs. PT; 16 hrs. MT) ***

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, MIL-STD.1907

Optional Texts: MT & PT Student Packages, MT & PT Level II Study Guides, MT & PT Q&A

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.

Prerequisites: 101 and 104A or documented equivalents.

Required Texts: General Dynamics PI-4-1, CT-6-2, Weld Defects & Discontinuities

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-1A 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: 101 or documented equivalent

Required Text: TBD

Course #106A (May meet on Saturdays) **Eddy Current Inspection I**

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

Prerequisite: 101 or documented equivalent

Required Texts: TBD

Course #106B (May meet on Saturdays) **Eddy Current Inspection II**

Advanced eddy current concepts including high frequency/low frequency inspection, instrumentation, reference standards, defect detection, impedance plane, conductivity, surface flaw inspection, ID probes, encircling probes, surface probes, eddy current C-scan, test set-up and inspection of aircraft including fastener hole inspection, subsurface cracks, corrosion and defect evaluation.

Prerequisite: 106A or documented equivalent

Required Texts: TBD

Course #107 **Weld Inspection** (Meets Mon., 6-10 p.m.) **(Prep for AWS CWI Exam)**

Spring course begins Mon., March 9 (not March 5)

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 technicians, engineers and supervisors.

It will aid in preparation for the American Welding Society Certified Welding Inspection (CWI) exam.

Prerequisite: Experience in welding or inspection or QC or engineering.

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 #115

Basic Blue Print Reading (Mon. nights)

****Spring course begins Mon., March 9 (not March 5)****

This course will provide instruction in the fundamentals of interpreting orthographic type drawings used typically throughout the 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

Geometric Dimensioning & Tolerancing

ASME Y14.5-2009

****Spring course begins Mon., March 9 (not March 5)****

(Online-based course. Access to a computer with Internet required.)

This course is designed to provide technicians, engineers, designers, manufacturers, managers, and machinists with the technical knowledge and skills to interpret and apply geometric dimensioning and tolerancing (GD&T) to a manufactured part. The current ASME (American Society of Mechanical Engineers) standard will be covered and all geometric tolerancing symbols will be discussed. The learning objectives will be accomplished through video lectures and inspection demonstrations, practical exercises, tests and exams. GD&T learning objectives will be accomplished through practical application worksheets on all geometric controls. This course will also cover the differences between the current standard and previous ASME GD&T standards.

Prerequisite: Blueprint reading background or course 115

Required Text: Geometric Dimensioning and Tolerancing

Course #117

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

(Usually Thurs., 6-9pm)

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: PTP RT PI Vols. IV and V

Optional Texts: Industrial X-Ray Interpretation

Course #301 (Mon. nights)

Nuclear Radiological Health & Safety

****Spring course begins Mon., March 9 (not March 5)****

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. (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

(May meet on Monday or Thursday nights)

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: Experience as Level II. (Course 101 or equivalent recommended.)

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: *Experience as Level II RT.*

Required Text: *Radiography Level III Study Guide*

Optional Texts: *RT Q&A, NDT Handbook RT*

Course #402**Preparation for Level III Ultrasonic**

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

Prerequisite: *Experience as Level II UT.*

Required Texts: *Ultrasonics Level III Study Guide.*

Optional Texts: *UT Q&A, NDT Handbook UT*

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

(May meet on Monday or Thursday nights)

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

Prerequisite: *Experience as Level II MT or PT.*

Required Texts: *Level III MT & PT Study Guides*

Optional Texts: *MT Q&A, PT Q&A, NDT Handbook PT, NDT Handbook MT*

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 EARLY
REGISTRATION NIGHT, MONDAY NIGHTS, AND
THURSDAY NIGHTS ONLY!**

**CONGRATULATIONS
2018-2019 ASNT-GLAS
SCHOLARSHIP AWARD RECIPIENTS**

Marybeth Miceli Women's Scholarship
Alexandra Batista

Kristy Davis Jones Women's Scholarship
Amber Toland

Brianna Buchanan Women's Scholarship
Hannah Garcia

**ASNT-GLAS is proud to honor women, veterans,
current military and student excellence.**

Jobs

For NDT job listings and NDT job-hunting tips and resources, including help with resumé writing and interview skills, consult asnt.org (click "Jobs") and asnt-glas.org (click "Employment") and our NDT Jobs Board in Room 609.

Along with searching for NDT jobs at popular sites like Indeed.com, Monster.com, CareerBuilder.com, etc., other third-party websites to consult include ndt.org, ndtcareers.com, inspectionjobs.com, nde-ed.org and surehand.com

Statement of Diversity and Inclusion

The ASNT-GLAS Education Committee accepts and respects all students, inclusive of race, ethnicity, tribal status, financial status, employment status, housing status, sex, gender, gender expression or identity, national origin, immigration status, protected veteran status, religious belief or non-belief, political affiliation or non-affiliation, sexuality, disability, familial, marital, parental or pregnancy status and any other status protected by law.

Statement Against Harassment

The ASNT-GLAS Education Committee does not tolerate harassment of any kind and will take action against any perpetrators as permitted by law.

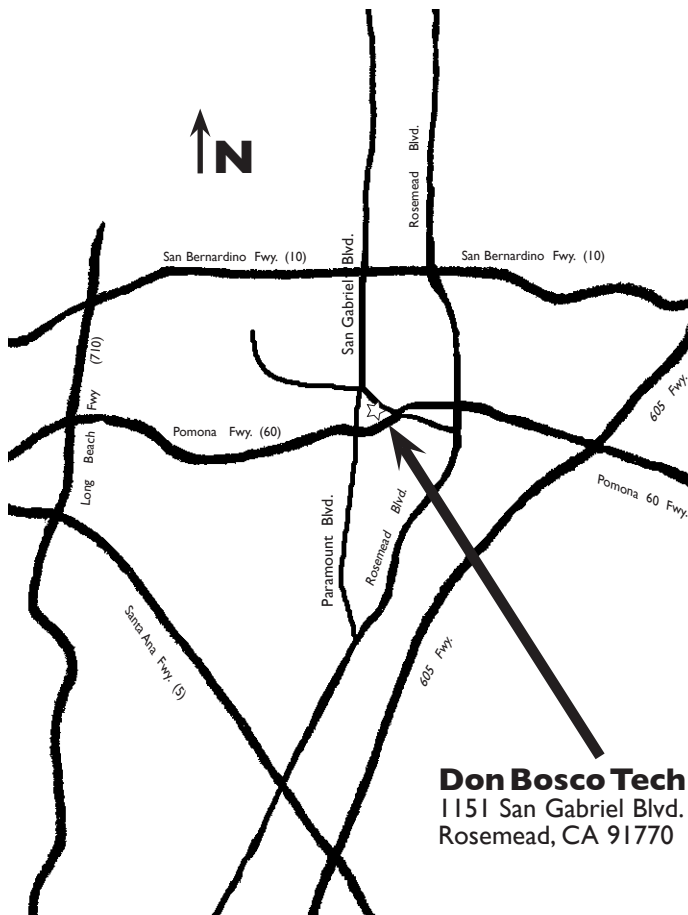
ASNT Mission Statement

ASNT exists to create a safer world by advancing scientific, engineering, and technical knowledge in the field of nondestructive testing.

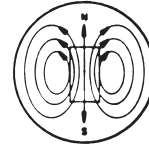
Grading Criteria

The grade for a course is computed as follows:

1. Attendance—Attendance is critical to passing courses. Students are responsible for any class information, lecture content, handouts, homework or tests missed due to tardiness or absence. Students must consult their instructor.
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%.



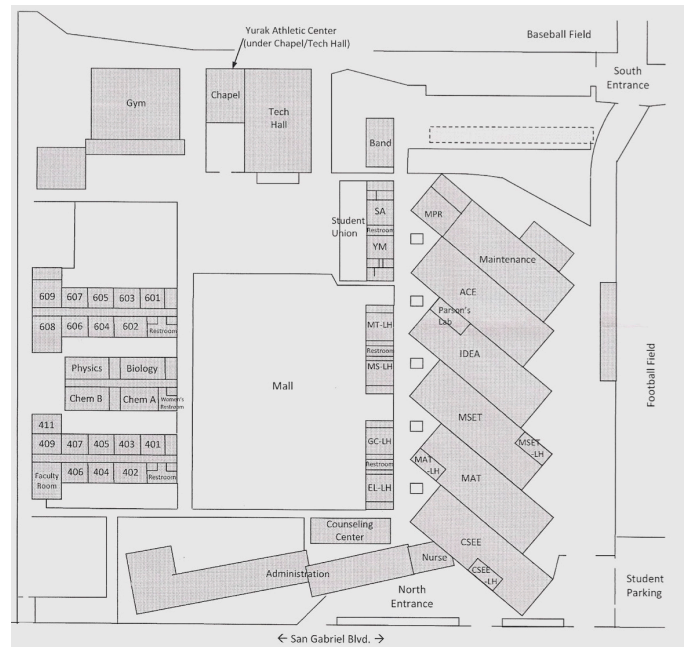
**BOOKS AVAILABLE FOR SALE ON EARLY
REGISTRATION NIGHT, MONDAY NIGHTS, AND
THURSDAY NIGHTS ONLY!**



Parking and Classroom Information

Students may park in the lot designated "student 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.

Registration and books room is Room 609, located in the 600 building, where most of our classes are held.



Registration Information: Spring 2020

See fee schedule for \$50 Early Registration discount and \$50 ASNT member discount. Corporate membership allows only the three (3) Delegate-members on the corporate mailing list to register at the ASNT member fee. To register at ASNT member fee, a current membership card or number must be presented. As part of our ASNT-GLAS Women's, Veterans' and Military Initiatives, students who are either women, veterans or current military receive a half-scholarship (50% off) on their course fee. Class cancellation is subject to minimum enrollment. For advanced courses, call or email before driving to Bosco.

Registration fee refunds: (After 5th class, no refunds)

Before/After the 1st class:	100%
After the 2nd class:	75%
After the 3rd class:	50%
After the 4th class:	25%

It has become necessary that the registration fee be paid at the time of registration to eliminate invoicing and permit program activities. Students with any remaining debts will have holds placed on their exams and records.

- Registration by mail/fax/email must arrive prior to first day of class for early registration discount.
- Or register in person in room 609 on Early Registration Night from 6:00-9:00pm for early registration discount.
- Please plan to arrive by 6:00pm on the first night of classes if you have not registered. Otherwise, report to class at 7pm. Books can be bought before or after class or at break.

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

All courses

\$650.00 (ASNT Members)

\$700.00 (Non-Members)

Early Registration Fees (paid before 1st class day)

All courses

\$600.00 (ASNT Members)

\$650.00 (Non-Members)

ASNT-GLAS Women's, Veterans, & Military Initiatives:**Women, vets, and military with ID receive half-scholarship.****ALL students repeating courses receive half-scholarship (50% off course)**

ASNT-GLAS Education Registration Form

Please register me in the following course. I have noted the course prerequisite(s) and attached is copy of the certificate or evidence of completion. Please print legibly and/or in **CAPITAL LETTERS**.

☐ Fall Session☐ Spring Session

Course Number: _____ Course Title: _____

Name: _____ Last four digits of SSN (OR Date of Birth): _____

ASNT Member Number: _____ Not a Member? ☐ I'd like to become an ASNT Member (free w/ course payment)If Veteran, ID _____ If Military, ID _____ 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 ASNT Greater Los Angeles Section is an affiliate of the American Society for Nondestructive Testing (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. ASNT-GLAS, including the Educational Committee, is a tax-exempt, nonprofit, nonsectarian 501(c) (3) organization

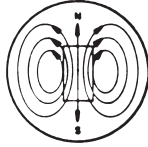


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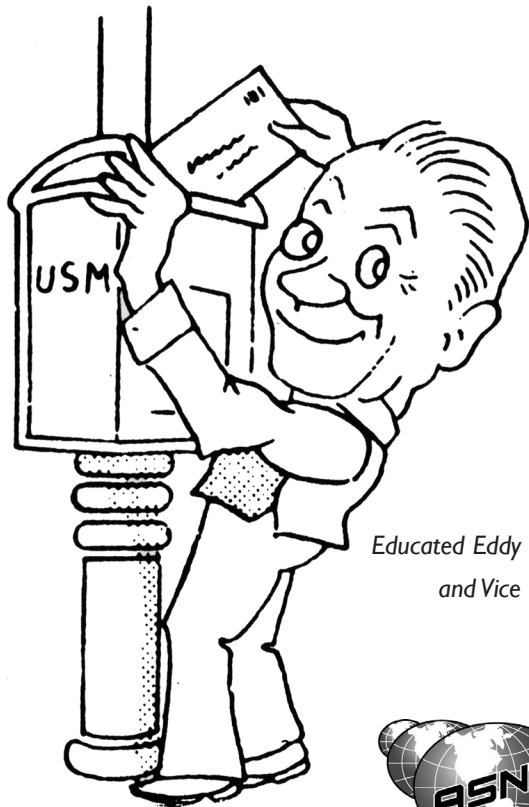
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Rosemead, California 91770-4299



Route:

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



EDUCATED EDDY SAYS ...

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

*Educated Eddy also fondly remembers the late **Tom Higgs** (1920-2007), former Radiography instructor and Vice Chair for the ASNT-GLAS Education Program, during the centennial year of his birth.*

Educated Eddy misses Tom, and so do we.



ASNT
GREATER LOS ANGELES
SECTION

