

NTI NATIONAL TECHNICAL INSTITUTE

Excellence in Technical Training Since 2003!



2014/2015 Catalog

Phone: 702-948-9000 • E-mail: info@ntitraining.net
www.ntitraining.net

Thank you for your interest in National Technical Institute. This Catalog should answer most of your questions about our training programs. Please contact us at 702-948-9000 if you have other questions.

National Technical Institute is licensed by the Nevada Commission on Postsecondary Education.

OUR FACILITY

We have a 4,000 square foot training facility that is dedicated to technical training. Our classrooms have state of the art audio/video equipment and computerized teaching aids. Our 1,300 square foot lab is a fully equipped, professional atmosphere with 3 phase power and electrical training units available to practice control wiring and circuit troubleshooting. Students reinforce classroom instruction with “hands on” training using industrial and commercial equipment as well as A/C, gas heating units and refrigeration equipment, including ice machines, reach-in coolers and basic refrigerators.

OUR STUDENTS

We cater to those interested in entering the technical trades and those already employed seeking training to sharpen their skills.

OUR MISSION

Offer the most up to date and comprehensive training available, which is accessible and affordable.

OUR PROGRAMS

National Technical Institute’s Air Conditioning & Refrigeration Programs are broken down into 9 easy to manage courses. You can advance to a job-ready HVAC/R (Heating, Ventilation, Air Conditioning and Refrigeration) technician with hands-on training in just 2 to 4 months (depending on the program level). Classes are held 3 nights per week for either 2 or 3 weeks (depending on the course). All classes are held in the evenings from 5 to 9 pm. Courses can be taken individually or as part of a program. Students who are already employed in the field or who already have some HVAC/R training and wish to take an advanced course, such as HVAC Troubleshooting or Commercial Refrigeration, may do so upon successfully completing a prerequisite exam prior to enrollment.

As a next step in HVAC/R training and/or field experience, National Technical Institute also offers 3 additional courses as part of our Facility Engineer Program. These 3 more advanced courses allow students to move beyond residential and small commercial HVAC/R systems and into “central plants” found in large commercial and industrial buildings (such as casinos, hospitals, high-rise office buildings, manufacturing plants, etc.). Topics covered include boilers, chillers, cooling towers, air handlers, pumps, piping, and blueprint reading.

PROGRAM DETAILS

<u>Basic Air Conditioning and Refrigeration Program</u>	<u>Hours</u>	<u>Tuition</u>	<u>Textbooks</u>
Electrical I - Basic Electrical Theory	24 hours	\$430.00	\$95.00 *See Note
Electrical II - Electrical Application	24 hours	\$430.00	* See Note
Air Conditioning & Refrigeration Fundamentals	32 hours	\$575.00	* See Note
EPA Certification Seminar & Exam	8 hours	\$175.00	\$25.00
TOTAL COST FOR THIS PROGRAM	88 hours	\$1,610.00	\$120.00

<u>Advanced Air Conditioning and Heating Program</u>	<u>Hours</u>	<u>Tuition</u>	<u>Textbooks</u>
Electrical I - Basic Electrical Theory	24 hours	\$430.00	\$95.00 *See Note
Electrical II - Electrical Application	24 hours	\$430.00	* See Note
Air Conditioning & Refrigeration Fundamentals	32 hours	\$575.00	* See Note
EPA Certification Seminar & Exam	8 hours	\$175.00	\$25.00
Advanced Air Conditioning	32 hours	\$575.00	* See Note
Gas Heating Seminar	8 hours	\$145.00	* See Note
Heat Pump Seminar	8 hours	\$145.00	* See Note
HVAC Troubleshooting	24 hours	\$430.00	* See Note
TOTAL COST FOR THIS PROGRAM	160 hours	\$2,905.00	\$120.00

<u>Advanced HVAC & Refrigeration Program</u>	<u>Hours</u>	<u>Tuition</u>	<u>Textbooks</u>
Electrical I - Basic Electrical Theory	24 hours	\$430.00	\$95.00 *See Note
Electrical II - Electrical Application	24 hours	\$430.00	* See Note
Air Conditioning & Refrigeration Fundamentals	32 hours	\$575.00	* See Note
EPA Certification Seminar & Exam	8 hours	\$175.00	\$25.00
Advanced Air Conditioning	32 hours	\$575.00	* See Note
Gas Heating Seminar	8 hours	\$145.00	* See Note
Heat Pump Seminar	8 hours	\$145.00	* See Note
HVAC Troubleshooting	24 hours	\$430.00	* See Note
Commercial Refrigeration	32 hours	\$575.00	* See Note
TOTAL COST FOR THIS PROGRAM	192 hours	\$3,480.00	\$120.00

NOTE: *Modern Refrigeration & Air Conditioning* textbook is used for all the courses with *

<u>Facility Engineer Program</u>	<u>Hours</u>	<u>Tuition</u>	<u>Textbooks</u>
Blueprint Reading	8 hours	\$160.00	\$45.00
HVAC Central Plants	24 hours	\$470.00	\$90.00
Boiler Operations	40 hours	\$750.00	\$85.00
TOTAL COST FOR THIS PROGRAM	72 hours	\$1,380.00	\$220.00

Class schedules and prices subject to change

COURSE LISTING

Modern Refrigeration & Air Conditioning textbook is used for all courses (except as noted).

E101 Electrical I - Basic Electrical Theory - 24 Hours

Tuition \$430.00

PREREQUISIT: None

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Electron Theory, Basic Electrical Math, Ohm's Law, Basic Electrical Circuits, Series and Parallel Circuits, Schematics and Diagrams, Electrical Testing Instruments, Electric Motors and Electrical Safety.

OBJECTIVE: Students will become familiar with basic electrical theory and fundamentals. The use of electrical testing equipment and basic hand tools will be covered and practiced. Circuit wiring will be studied and practiced in a lab environment.

E102 Electrical II - Electrical Application - 24 Hours

Tuition \$430.00

PREREQUISIT: Electrical I – Basic Electrical Theory or equivalent training

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Industrial Control Circuits, Motor Controls, Starting and Running Circuits and Motor Protection. An emphasis will be placed on understanding and wiring control circuits. Electrical Safety will be emphasized.

OBJECTIVE: Students will become familiar with electrical components. Each student will build and test circuits used in HVAC equipment and industrial controls. The use of hand tools and electrical test equipment will be studied and practiced in a lab environment.

A101 Air Conditioning & Refrigeration Fundamentals – 32 Hours

Tuition \$575.00

PREREQUISIT: None

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Refrigeration History, Refrigeration Theory, Thermal Laws, Components of a Refrigeration System, Refrigeration Cycle, Refrigerant Properties, Compressor Types, ARI Standards. Refrigeration Tool Usage, including Gauges, TP Chart, Soldering, Brazing. Safety will be emphasized.

OBJECTIVE: Students will understand the basic refrigeration cycle, the components that are common to refrigeration systems and the physical laws that apply. Upon completion the student will be able to competently Solder and Braze copper refrigeration fittings.

A103 EPA Certification Seminar & Exam – 8 Hours

Tuition \$175.00

PREREQUISIT: None

FORMAT: Lecture and Proctored Testing

STUDY TO INCLUDE: Students will become familiar with the E.P.A. Rule 608 40-CFR, part 82 subpart (f). Students will become familiar with types of certification, theory on ozone loss, legal requirements regarding use and disposal of refrigerants containing CFC's. Proper recycling techniques, recovery techniques and refrigerant disposal will be covered.

OBJECTIVE: Students will be prepared to successfully complete the RSES EPA 608 Universal Certification exam, which will be given at the end of the course.

NOTE: RSES EPA Handbook fee \$25.00

Tuition includes taking the EPA Exam one time; *Exam “retake” fee (if necessary) \$60.00*

A102 Advanced Air Conditioning – 32 Hours

Tuition \$575.00

PREREQUISIT: Air Conditioning & Refrigeration Fundamentals or equivalent training

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Review of Refrigeration Systems, Introduction to Duct Systems and Airflow, Refrigerant Controls, Electrical Controls, Air Conditioning Troubleshooting, Recovery, Evacuation and Recharge, Superheat and Sub-cool. Safety will be emphasized.

OBJECTIVE: Students will understand use of test equipment and will comprehend superheat, sub-cooling and airflow, and how to use these key indicators of system performance in the troubleshooting process.

A104g Gas Heating Seminar – 8 Hours

Tuition \$145.00

PREREQUISIT: None

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Introduction to Gas Heating, Ignition Theory, Combustion Theory, Operational Controls and Safety Controls, Furnace Types. Safety will be emphasized.

OBJECTIVE: Students will learn the fundamentals of gas heating systems and components. Troubleshooting techniques will be studied and practiced in a lab environment. Safety practices will be covered.

A104h Heat Pump Seminar – 8 Hours

Tuition \$145.00

PREREQUISIT: None

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Heat Pump Theory, Design and Components and Troubleshooting Heat Pump controls and Refrigeration systems. Safety will be emphasized.

OBJECTIVE: Students will learn the fundamentals of Heat Pump operation and system components troubleshooting techniques unique to Heat Pump systems will be covered.

A105 Commercial Refrigeration – 32 Hours

Tuition \$575.00

PREREQUISIT: Electrical I, Electrical II, Air Conditioning & Refrigeration Fundamentals and Advanced Air Conditioning or equivalent training

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Types of Commercial and Industrial Refrigeration Equipment and Systems, Refrigeration System Components and Troubleshooting Commercial Refrigeration Systems. Heat Load Calculations for a Commercial Refrigeration System. Safety will be emphasized.

OBJECTIVE: Students will become familiar with commercial refrigeration systems and their components. Troubleshooting will be covered for commercial refrigeration systems. Student will study, troubleshoot and repair commercial refrigeration systems in a lab environment.

A108 HVAC Troubleshooting – 24 Hours

Tuition \$430.00

PREREQUISIT: Must have attended a formal HVAC course or have a minimum of 1 year experience working as an HVAC Tech

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Troubleshooting concepts and techniques, review of control circuits, review of refrigeration cycle. Lab practice on commercial and residential package and split units covering a wide variety of HVAC problems.

OBJECTIVE: To provide student with knowledge and skills to successfully troubleshoot any type of problem associated with commercial and residential package or split HVAC systems.

F101 Blueprint Reading – 8 Hours

Tuition \$160.00

PREREQUISIT: None

FORMAT: Lecture

BOOKS: *Blueprint Reading* \$45

STUDY TO INCLUDE: Introduction to blueprints, sheet metal drawings, piping and plumbing drawings, electrical drawings, and air conditioning and refrigeration drawings.

OBJECTIVE: Upon completion of this course students will be able to interpret building plans, schematics, equipment schedules and drawings used to carry out the duties of a Facility Engineer.

F102 HVAC Central Plants – 24 Hours

Tuition \$470.00

PREREQUISIT: NTI's Advanced HVAC & Refrigeration Program or equivalent training, or have a minimum of 1 year experience working as an HVAC Tech

FORMAT: Lecture

BOOKS: *HVAC&R 6-Part Series Workbooks* \$90

STUDY TO INCLUDE: Complete system troubleshooting, air handling systems and calibration, chiller components, chiller leak check and electrical, cooling tower maintenance and troubleshooting, and condenser maintenance and troubleshooting.

OBJECTIVE: Upon completion of this course students will be able to describe all equipment that makes up an HVAC central plant, including chillers, chilled water systems, air handling systems, cooling towers, water treatment, and condensers. Students will be able to troubleshoot complete system problems, understand what maintenance is required and how to perform maintenance tasks.

F103 Boiler Operations – 40 Hours

Tuition \$750.00

PREREQUISIT: NTI's Advanced HVAC & Refrigeration Program or equivalent training, or have a minimum of 1 year experience working as an HVAC Tech

FORMAT: Lecture

BOOKS: *Boiler Operator's Workbook* (includes Interactive CD-ROM) \$85

STUDY TO INCLUDE: Boiler theory and principles, boiler construction and design, steam systems/controls, water supply and water treatment systems/controls, fuel systems/controls, draft and flue gas systems/controls, instrumentation, and boiler operation, maintenance and optimization.

OBJECTIVE: Upon completion of this course students will have knowledge of boiler operation, maintenance, and troubleshooting. Common boiler auxiliaries (including pumps and piping) as well as operating techniques will be covered. Safety will be stressed along with operating efficiency.

SCHOOL POLICY AND COURSE INFORMATION

1. **Effective Date:** 05-15-2015
2. **Prerequisites:** In order to take a course in NTI's Air Conditioning and Refrigeration or Facility Engineer Programs, you must have a high school diploma or a GED/equivalent and be at least 18 years old.
3. **Entrance Requirements:** There is no entrance examination but each prospective student will be interviewed. Please bring any questions you may have along with proof of age and education.
4. **Sequence:** It is strongly advised that you take the basic technical courses before taking any of the other courses. This will make the other courses easier to understand.
5. **Governing Body:**
 - A. Jeff Whitham: Director and Manager
6. **Faculty & Staff:**
 - A. Art Seifert Instructor
 - B. Ken Ellis Instructor
7. **Class schedule:** Classes are held in the evenings from 5 to 9 pm. See attached schedule for class dates.
8. **Registration deadline:** You must register for a course before the first day of class.
9. **School Holidays:** For the year 2014: 1/01/14, 5/26/14, 7/04/14, 9/01/14, 11/27/14, 12/25/14.
For the year 2015: 1/01/15, 5/25/15, 7/03/15, 9/07/15, 11/26/15, 12/25/15.
10. **School Hours of Operation:** Monday through Thursday, 9 am until 9 pm on days when classes are being held from 5 - 9 pm. School will be open on Saturdays only if classes are scheduled.
11. **Business Hours:** Monday through Friday 9 am until 5 pm.
12. **Placement Assistance:** **NTI does not offer job placement to students.**
13. **Attendance Requirements:** **Any student whose attendance drops below 70% will be required to meet with the school administrator to determine a proper course of action, as follows:**
 - A: The student will be allowed to restart the course at a later date, for no additional fee.
 - B: If the student elects to drop the course, a refund will be given pursuant to NTI's refund policy.
Maximum allowable absences (based on length of course):

8-Hour Course	2.4 Hours
24-Hour Course	7.2 Hours
32-Hour Course	9.6 Hours
40-Hour Course	12.0 Hours
14. **Grading Standards**
 - A. 25% of your grade is based on graded labs.
 - 1) Following instructions; 2) Teamwork; 3) Safety; 4) Outcome.
 - B. 25% of your grade is based on quiz grades (averaged).
 - C. 50% of your grade is based on final exam.
15. **Certificate:** Every student who completes a course and receives a final grade of 70% or higher will receive a Certificate of Completion.
16. **Continuing Education Unit (CEU):** Every student that successfully meets the attendance requirement and the grading requirement for a course is eligible to receive CEUs. One CEU will be issued for every 10 hours of instruction/contact.
17. **School Transcript:** The school will maintain a record of all students who attend. Any present or past student or their representative may request a copy of their transcripts.
18. **Definition of Absent:** A student missing more than half of the class.
19. **Excused Absence:** Student must call at least 2 hours prior to start of class.
20. **Unexcused Absence:** Student who does not call at least 2 hours prior to start of class.
21. **Leave of absence:** Leave of absence will not be granted. Exceptions – medical or death.
22. **Tardiness:** Student who arrives after start of class.
23. **Early Out:** Student who leaves before end of class.
24. **Make up work:** It is up to the student to make arrangements with the Instructor for make up work not completed due to an absence or tardy.
25. **Student Conduct Code:** Students are expected to follow all school rules. You will be immediately expelled for fighting, stealing or intentional destruction of school property. Any student who habitually or willfully violates school rules will be given a written notice. If a student receives three written notices they will be expelled from school. Expelled student will be treated as if they voluntarily dropped the course for purposes of refund policy.

26. School Rules:

- A. No smoking in building. Smoking is allowed on breaks only in designated area outside.
- B. No drinks allowed in class or lab.
- C. Food or snacks are allowed on breaks in designated area.
- D. No chewing tobacco or gum in class or lab.
- E. You must clean up after yourself.
- F. Treat everyone in the class with respect.
- G. You must not be under the influence of alcohol or drugs.
- H. Dress Code:
 - 1. Short sleeve shirt, no tank top or under shirt
 - 2. Jeans, work pants or work shorts.
 - 3. Work shoes (no open toe shoes in the lab)
- I. You will receive written notices for habitual violation of school rules. If you receive three of these notices you will be expelled.

27. Standard of Progress: Student must receive a minimum final grade of 70% to pass a course and receive their certificate.

28. Class Size: Maximum class size 24 students.

29. Student Aid: Student aid is not available at this time.

30. Dropped Courses: If you were terminated due to attendance or voluntarily dropped a course but not expelled, you will be able to attend future courses to repeat your training. You can repeat any course that you have failed, but only once within the calendar school year. Any refund would be postponed and calculated towards the course that you had the most hours in.

31. Expelled or Terminated Students: Expelled or terminated students will be presented with a written letter of explanation for this action. The letter will be given in person or sent certified mail.

32. Credit for Previous Training: No credit is given for previous training or experience.

33. Additional Cost: \$60.00 for additional EPA exam if a retake is necessary.

34. Refund Policy:

- 1. Refund of tuition:
 - A. If National Technical Institute (NTI) has substantially failed to furnish the training program agreed upon in the Enrollment Agreement, we shall refund to the student all money paid.
 - B. If student cancels their enrollment by delivering written notice to NTI on or before the start date of the training program, NTI shall refund all money they have paid, minus 10 percent of the full tuition agreed upon in the Enrollment Agreement or \$100.00, whichever is less.
 - C. If student withdraws by delivering written notice to NTI on or before the effective date of withdrawal, or is expelled or terminated after the start date of the training program, but before 60% of such program has been presented, student will be charged a prorated tuition based on the percentage of the program presented prior to formal withdrawal or expulsion/termination, plus 10% of the full tuition agreed upon in the Enrollment Agreement or \$100.00, whichever is less.
 - D. If student withdraws by delivering written notice to NTI on or before the effective date of withdrawal, or is expelled or terminated after 60% or more of the training program has been presented prior to formal withdrawal or expulsion/termination, student will be charged the full tuition agreed upon in the Enrollment Agreement.
- 2. If a refund is owed pursuant to Paragraph 1, National Technical Institute shall pay the refund to the person or entity who paid the tuition within 15 calendar days after the:
 - A. Date of receipt by NTI of written cancellation of the enrollment of a student;
 - B. Date of receipt by NTI of written termination by the institution of the enrollment of a student;
 - C. Last day of an authorized leave of absence if a student fails to return after the period of authorized absence; or
 - D. Date of receipt by NTI of written withdrawal of a student, whichever is applicable.
- 3. Books, educational supplies or equipment for individual use are not included in the policy for refund stated in Paragraph 1, and will not be refunded.
- 4. For purposes of this section:
 - A. The period of attendance is measured from the first day of instruction set forth in the Enrollment Agreement through the date NTI receives applicable written notice, regardless of absences.
 - B. The period of time for the training program is set forth in the Enrollment Agreement.
 - C. Tuition is calculated using the tuition and fees set forth in the Enrollment Agreement and does not include books, educational supplies or equipment listed separately from tuition and fees.