

NTI NATIONAL TECHNICAL INSTITUTE

Technical Training For Southern Nevada



2008/2009 Catalog

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

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

OUR FACILITY

We have a 10,000 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 6,000 square foot lab is a fully equipped, professional atmosphere with 3 phase power, compressed air, and electrical training units available to practice control wiring and circuit troubleshooting. Students re-enforce 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.

Directions to National Technical Institute: Follow I-93/95 - 515 toward Henderson - Exit Sunset Rd – Go East past the Boulder Highway - 1/2 mile to Haren – turn left on Haren and go one block to the NW corner of Sunpac Ct. National Technical Institute is located on the second floor of the Bishop Air Service building.

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. Make training accessible and affordable.

OUR PROGRAMS

National Technical Institute’s Air Conditioning & Refrigeration Programs are broken down into 8 easy to manage classes. By working your way through the basic electrical and mechanical training you can advance to a job ready technician with specialty training in air conditioning and/or refrigeration in less than 5 months. Most classes are held on two nights per week for either 3 or 4 weeks (depending on the class). All classes are in the evenings from 5 pm to 9 pm. Classes can be taken individually or grouped together to complete a program. Students who are already employed in the field or who have already been through classes and wish to take an advanced class, such as Advanced Air Conditioning or Commercial Refrigeration, may do so upon successfully completing a prerequisite exam prior to enrollment.

PROGRAM DETAILS

<u>Basic Air Conditioning and Refrigeration</u>	<u>Hours</u>	<u>Tuition</u>	<u>Textbooks</u>
Electrical I - Basic Electrical Theory	24 hours	\$330.00	\$85.00 *See Note
Electrical II - Electrical Application	24 hours	\$330.00	* See Note
Air Conditioning & Refrigeration Fundamentals	32 hours	\$440.00	* See Note
EPA Certification Seminar & Exam	8 hours	\$125.00	\$20.00
TOTAL	88 hours	\$1,225.00	\$105.00

<u>Advanced Air Conditioning and Heating</u>	<u>Hours</u>	<u>Tuition</u>	<u>Textbooks</u>
Electrical I - Basic Electrical Theory	24 hours	\$330.00	\$85.00 *See Note
Electrical II - Electrical Application	24 hours	\$330.00	* See Note
Air Conditioning & Refrigeration Fundamentals	32 hours	\$440.00	* See Note
EPA Certification Seminar & Exam	8 hours	\$125.00	\$20.00
Advanced Air Conditioning	32 hours	\$440.00	* See Note
Gas Heating Seminar	8 hours	\$125.00	None
Heat Pump Seminar	8 hours	\$125.00	None
TOTAL	136 hours	\$1,915.00	\$105.00

<u>Advanced Refrigeration</u>	<u>Hours</u>	<u>Tuition</u>	<u>Textbooks</u>
Electrical I - Basic Electrical Theory	24 hours	\$330.00	\$85.00 *See Note
Electrical II - Electrical Application	24 hours	\$330.00	* See Note
Air Conditioning & Refrigeration Fundamentals	32 hours	\$440.00	* See Note
EPA Certification Seminar & Exam	8 hours	\$125.00	\$20.00
Advanced Air Conditioning	32 hours	\$440.00	* See Note
Gas Heating Seminar	8 hours	\$125.00	None
Heat Pump Seminar	8 hours	\$125.00	None
Commercial Refrigeration	32 hours	\$440.00	* See Note
TOTAL	168 hours	\$2,355.00	\$105.00

NOTE – Modern Refrigeration and Air Conditioning textbook fee **\$85.00**. This one textbook is used for all the classes with an *

► ***The following classes are highly recommended but are not required*** ◀

Basic Industrial Maintenance	24 hours	\$330.00	\$25.00
Introduction to Instrumentation and Controls	24 hours	\$330.00	\$60.00
HVAC Troubleshooting	24 hours	\$330.00	* See Note

Class schedules and tuition subject to change

CLASS LISTING

Modern Refrigeration and Air Conditioning Textbook fee \$85.00 (this textbook is used for all classes except as noted)

E101 Electrical I - Basic Electrical Theory - 24 Hours

Tuition \$330.00

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 \$330.00

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 \$440.00

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 \$125.00

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 certification exam, which will be given at the end of the class.

NOTES RSES EPA Handbook fee \$20.00
Exam "re-take" fee (if necessary) \$45.00

A102 Advanced Air Conditioning – 32 Hours

Tuition \$440.00

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 \$125.00

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.

NOTE No textbook required

A104h Heat Pump Seminar – 8 Hours

Tuition \$125.00

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.

NOTE No textbook required

A105 Commercial Refrigeration – 32 Hours

Tuition \$440.00

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.

► *The following classes are highly recommended but are not required* ◀

A106 Basic Industrial Maintenance – 24 Hours

Tuition \$330.00

PREREQUISIT: None

FORMAT: Lecture and Lab

STUDY TO INCLUDE: Students will learn how to maintain mechanical equipment and devices. Bearing maintenance and lubrication, alignment and adjustment of belts, pulley's and sheaves. Pump maintenance and shaft alignment, tools used in maintaining mechanical systems. Mechanical systems troubleshooting and repair techniques, basic mechanical math. Safety will be emphasized.

OBJECTIVE: Students will become familiar with proper maintenance practices including preventive maintenance as it applies to light industrial equipment. Proper use of hand tools used in the maintenance process will be covered.

NOTE Basic Industrial Maintenance Textbook fee \$25.00

A107 Introduction to Instrumentation and Controls – 24 Hours

Tuition \$330.00

PREREQUISIT: Electrical I – Basic Electrical Theory & Electrical II – Electrical Application or equivalent training.

FORMAT: Lecture and Lab

STUDY TO INCLUDE: The fundamentals of Instrument and Control Systems. Digital control hardware, field devices and software, actuators, relays and transducers will be covered. Control loops and control logic will be discussed.

OBJECTIVE: Students will be introduced to advanced control systems used in industrial systems. Students will become familiar with control devices and their proper application in a complete system.

NOTE Introduction to Instrumentation Textbook fee – \$60.00

A108 HVAC Troubleshooting – 24 Hours

Tuition \$330.00

PREREQUISIT: Must have attended a formal HVAC course or have a minimum of 1 year 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

SCHOOL POLICY AND CLASS INFORMATION

1. **Effective Date:** 01-01-2008
2. **Prerequisites:** In order to take a class in our Air Conditioning and Refrigeration Programs, you must have a high school diploma or a GED 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 have about the school or our programs. Please bring proof of age and education.
4. **Sequence:** It is strongly advised that you take the basic technical classes before taking any of the other classes. This will make the other classes easier to understand.
5. **Governing Body:**
 - A. Ron Bishop: Director and President
6. **Faculty & Staff:**
 - A. Art Seifert Instructor
 - B. Dino Redd Instructor
 - C. Cheri Rosenbaum Operations Manager
7. **Class schedule:** Classes are given in the evenings from 5 pm to 9 pm. See attached schedule for class dates.

- 8. **Registration deadline:** You must register for a class before the first class date.
- 9. **School Holidays:** For the year 2008: 1/01/08, 5/26/08, 7/04/08, 9/01/08, 11/27/08, 12/25/08.
For the year 2009: 1/01/09, 5/25/09, 7/03/09, 9/07/09, 11/26/09, 12/25/09.
- 10. **School Hours of Operation:** Monday through Thursday 8 am until 9 pm. School will be open on Saturdays only if classes are scheduled.
- 11. **Business Hours:** Monday through Friday 8 am until 5 pm.
- 12. **Placement Assistance:** NTI does not offer students job placement.
- 13. **Attendance Requirements:** Any student who's 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 class at a later date, for no additional fee.
 - B: If the student elects to drop the class, a refund will be given pursuant to the schools established refund policy.

Class Hours	Maximum allowed Absences
8 Hour Class	2.4 Hours
16 Hour Class	4.8 Hours
24 Hour Class	7.2 Hours
32 Hour Class	9.6 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 test grades (averaged).
 - C. 50% of your grade is based on final exam.
- 15. **Certificate:** Every student who completes a class and receives a 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 class 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 class 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 tennis or 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 grade of 70% to pass a class 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 Classes:** If you were terminated due to attendance score or voluntarily dropped a class but not expelled, you will be able to attend future classes to repeat your training. You can repeat any class that you have failed, but only once within the calendar school year. Any refund would be postponed and calculated towards the class 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:** \$45.00 for additional EPA exam if a re-take is necessary.
- 34. **Refund Policy:**
 - 1. Refund of tuition:
 - A. If National Technical Institute 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 the student cancels his enrollment before the start of the training program, National Technical Institute shall refund all the money they have paid, minus 10 percent of the tuition agreed upon in the enrollment agreement or \$100.00, whichever is less.
 - C. If the student withdraws, is expelled or is terminated from a class, after the start date of class, but before 60% of the class has been presented, you will be charged: a prorated tuition, and 10% of the full tuition agreed upon in the Enrollment Agreement or \$100.00, whichever is less.
 - D. If the student withdraws, is expelled or is terminated from a class after the completion of 60 % of the training program, the student will be charged the entire cost of the 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 cancellation by a student of his enrollment;
 - B. Date of 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. Last day of attendance 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 the purposes of this section:
 - A. The period of a student's attendance is measured from the first day of instruction as set forth in the enrollment agreement through the student's last day of actual attendance, 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 that are listed separately from the tuition and fees.