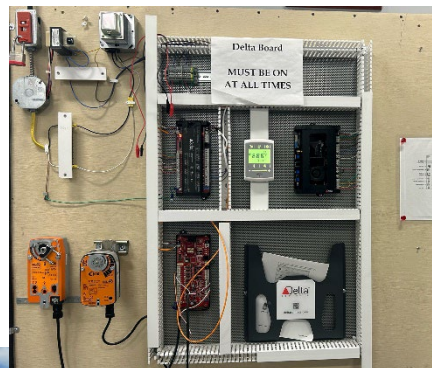


# SPRING SCHEDULE



**NAPE**  
EDUCATIONAL FOUNDATION  
HANDS-ON EDUCATION  
FOR BUILDING ENGINEERS

# 2024



Administrative Office:  
5520 Cherokee Avenue, Suite 250 • Alexandria, Virginia 22312  
Tel: 703.845.7055 • Fax: 703.845.7059

[www.napeef.org](http://www.napeef.org)

## Electrical

PRINCIPLES OF ELECTRICITY – 36 HOURS		
Books-\$202.00 • Tax \$12.12 • Tuition: \$788.88 • Total: \$1,003.00		
Book: Delmar's Textbook of Electricity 7 <sup>th</sup> Edition		
No prerequisites required. <i>This is a beginner's course which starts with the basic elements of circuitry, safety rules, understanding of terminology and simple mathematical calculations. It prepares the student for all other aspects of engineering. This course is designed to allow the student to progress directly to our Electrical Systems, Code and Theory course. This is not a wiring class. This course is required for all NAPEEF electrical classes, and Air Conditioning II. Basic English and math skills required.</i>		
PRINCIPLES OF ELECTRICITY / S-200-AL		
12 Sessions	5:30 pm to 8:30 pm	Alexandria, VA Location
Monday, 2/5/2024 to 4/29/2024		Eduardo Ayala, Instructor
PRINCIPLES OF ELECTRICITY / S-204-GR		
12 Sessions	5:00 pm to 8:00 pm	Greenbelt, MD Location
Monday, 2/26/2024 to 5/13/2024		Devon Maye, Instructor
PRINCIPLES OF ELECTRICITY / S-202-AL		
12 Sessions	5:30 pm to 8:30 pm	Alexandria, VA Location
Monday, 3/4/2024 to 5/20/2024		Sean McRunnel, Instructor
PRINCIPLES OF ELECTRICITY / S-201-AL		
12 Sessions	5:00 pm to 8:00 pm	Alexandria, VA Location
Wednesday, 4/3/2024 to 6/26/2024		John Hughes, Instructor

SCHEMATICS – 30 HOURS		
Books-\$147.51 • Tax-\$8.85 • Tuition: \$797.64 • Total \$954.00		
Book: Electric Motors Controls 5 <sup>th</sup> Edition		
Completion of Principles of Electricity course is required. <i>A basic understanding of A/C and electrical components and how they apply to HVAC is necessary before taking this course. Curriculum includes wiring, diagrams, symbols, legends, walk thru and troubleshooting of ladder wiring diagrams See <a href="http://www.napeef.org">www.napeef.org</a> for current course schedule for times, dates and locations for control circuits. No pretest is required for this course. Basic English skills required.</i>		
SCHEMATICS / S-231-AL		
10 Sessions	5:30 pm to 8:30 pm	Alexandria, VA Location
Thursday, 2/22/2023 to 4/25/2024		Eduardo Ayala, Instructor

ELECTRIC MOTORS – 30 HOURS		
Books-\$103.95 • Tax-\$6.24 • Tuition: \$902.81 • Total \$1,013.00		
Book: Motors 2 <sup>nd</sup> Edition		
Completion of the Principles of Electricity course is required. <i>This course will focus on single phase and three phase A/C motors. How motors start and run, electromagnetism, and practical applications of induction type, split phase and capacitor type motors will be covered. Basic English and Math skills required.</i>		
ELECTRIC MOTORS / S-210-AL		
10 Sessions	5:30 pm to 8:30 pm	Alexandria, VA Location
Tuesday, 2/20/2024 to 4/30/2024		Eduardo Ayala, Instructor

## ELECTRICAL SYSTEMS, CODE & THEORY – 60 HOURS

Books-\$344.61 • Tax-\$20.68 • Tuition: \$1,236.71 • Total \$1,602.00

Book: Electric Motors Controls 5<sup>th</sup> Edition, National Electrical Code (NEC) 2020, NEC Tabs 2020, NEC Reference Cards 2020, Ugly's Book, NFPA 70E Standard for Electrical Safety 2023

Completion of the Principles of Electricity course is required, and intermediate English skills are necessary. This intermediate-level course will focus on electrical principles and components, inductance and capacitance, motors and motor starters, measuring instruments and their use; single and three phase fundamentals, various in-class exercises; alternating current characteristics; safety; electrical formulas and their applications. This course will explore and clarify updated code information. Please note: This is not a wiring class. As time permits there may be some hands-on exercises.

ELECTRICAL SYSTEMS, CODE & THEORY / S-220-AL

16 Sessions

5:30 pm to 9:00 pm

Alexandria, VA Location

Wednesday, 2/7/2024 to 5/22/2024

Sean McRunnel, Instructor

## Air Conditioning

### AIR CONDITIONING I\* – 60 HOURS

Books-\$183.02 • Tax-\$10.98 • Tuition: \$1,333.00 • Total \$1,527.00

Book: Refrigeration & Air Conditioning Technology 9<sup>th</sup> Edition

*This entry-level course concentrates on basic refrigeration circuits up to 20-ton package and split systems - air and water-cooled. The goal is for students to develop a basic understanding of the refrigeration cycle and its components. Students are required to attend one weekend lab session. Intermediate English skills are required.*

AIR CONDITIONING - I / S-240-AL

16 Sessions

5:00 pm to 8:30 pm

Alexandria, VA Location

Thursday, 2/8/2024 to 5/23/2024

Jason Trotman, Instructor

AIR CONDITIONING - I / S-243-GR

16 Sessions

5:00 pm to 8:30 pm

Greenbelt, MD Location

Wednesday, 2/28/2024 to 6/12/2024

Francis Ayensu, Instructor

AIR CONDITIONING – I / S-241-AL

16 Sessions

5:00 pm to 8:30 pm

Alexandria, VA location

Tuesday, 3/5/2024 to 6/18/2024

Jason Trotman, Instructor

### AIR CONDITIONING II\* – 60 HOURS

Books-\$183.02 • Tax-\$10.98 • Tuition: \$1,427.00 • Total \$1,621.00

Book: Refrigeration & Air Conditioning Technology 9<sup>th</sup> Edition

Completion of Principles of Electricity and Air Conditioning I - Introduction course is required. *This course covers step-by-step methods of analyzing why a system will not run or is inefficient. Procedures are taught in the service person's language. Electrical and mechanical problems and solutions are covered. Students may be advised to transfer to a lower-level course based on a pretest. The textbook is the same as A/C I. Students are required to attend two (2) lab sessions on two weekends. Intermediate English skills required.*

AIR CONDITIONING II / S-250-AL

16 Sessions

5:00 pm to 8:30 pm

Alexandria, VA Location

Thursday, 2/15/2024 to 5/30/2024

David Umana, Instructor

AIR CONDITIONING II / S-252-GR

16 Sessions

5:00 pm to 8:30 pm

Greenbelt, MD Location

Tuesday, 3/19/2024 to 7/2/2024

Francis Ayensu, Instructor

## AIR CONDITIONING II\* – 60 HOURS CONTINUED...

### AIR CONDITIONING II / S-251-AL

16 Sessions

5:00 pm to 8:30 pm

Alexandria, VA Location

Monday, 4/15/2024 to 8/15/2024

David Umana, Instructor

**\* AC Labs — All AC I and AC II Students are required to attend lab sessions in order to pass the courses and receive their certificates. Please note: most labs are held on designated Saturdays during the day.**

## HEAT PUMPS – 60 HOURS

Books-\$175.00 • Tax-\$10.50 • Tuition: \$1,332.00 • Total \$1,517.50

Book: Heat Pumps 2<sup>nd</sup> Edition

Completion of Principles of Electricity, Air Conditioning I and Air Conditioning II classes is required. *This course specifically covers heat pump operation cycle and efficiency, compressors and motor controls, refrigerant controls, reversing valves, air and water coils, defrosting cycles, supplemental heat, service and troubleshooting and wiring diagrams. Students may be advised to transfer to a lower-level course based on a pretest. Advanced English skills required.*

### HEAT PUMPS / S-270-AL

16 Sessions

4:45 pm to 8:15 pm

Alexandria, VA Location

Tuesday, 2/6/2024 to 5/21/2024

Julio Herrera, Instructor

## AIR CONDITIONING III – 60 HOURS

Books-\$183.02 • Tax-10.98 • Tuition: \$1,280.00 • Total \$1,474.00

Book: Refrigeration & Air Conditioning Technology 9<sup>th</sup> Edition

Completion of Principles of Electricity, Air Conditioning I, II, and Heat Pump courses is required. *This course will focus on large commercial systems including, but not limited to: The study of Psychometrics, Air and Water balancing, Heat load calculations, Chiller Systems, Chiller simulation hands-on experience, Understanding VAV operation, EMS electrical savings, Review of plant operations, Pumps and Cooling towers, Heat Pumps and Troubleshooting Gas and Oil Rooftop units. Students may be advised to transfer to a lower-level course based on a pretest.*

### AIR CONDITIONING III / S-260-AL

16 Sessions

5:00 pm to 8:30 pm

Alexandria, VA Location

Friday, 2/23/2024 to 6/7/2024

Benjamin Cook, Instructor

## REFRIGERATION – 60 HOURS

Books-\$220.06 • Tax-\$13.20 • Tuition: \$1,279.74 • Total \$1,513.00

Book: Commercial Refrigeration for Air Conditioning Wirz 3<sup>rd</sup> Edition

Completion of Principles of Electricity, Air Conditioning I and Air Conditioning II OR Air Conditioning I & equivalent commercial work experience are required. *This course will concentrate on commercial refrigeration and ice machines. The course will cover installation and service of walk-ins, reach-ins, and ice machines as used primarily in the food service industry and in retail stores. Intermediate English skills required.*

### REFRIGERATION / S-280-AL

16 Sessions

5:00 pm to 8:30 pm

Alexandria, VA Location

Tuesday, 3/5/2024 to 6/18/2024

Jose Luis Villalobos, Instructor

## Controls

<b>CONTROLS I – 60 HOURS</b>		
Books-\$220.00 • Tax-\$13.20 • Tuition: \$1,366.80 • Total \$1,600.00		
Book: HVAC Control System Textbook 4 <sup>th</sup> Edition, HVAC Control Systems Workbook 4 <sup>th</sup> Edition, Green Building Glossary		
Prerequisites are Principles of Electricity and Air Conditioning I. This 60-hour course will cover basic building operations and HVAC systems, as they relate to control systems and components. Specific subjects include on-off control, switching, control methods, control strategies and control components. Control systems terminology will also be covered, along with input and output measuring methods, psychometrics and control logic. Basic English and Math skills required.		
CONTROLS I – BASIC / S-251-AL	5:00 pm to 8:30 pm	Alexandria, VA Location
16 Sessions		Ben Cook, Instructor
Thursday, 3/7/2024 to 6/20/2024		

## Boilers

<b>LOW PRESSURE BOILERS – 60 HOURS</b>		
Books-\$113.00 • Tax-\$6.78 • Tuition: \$1,138.22 • Total \$1,258.00		
Book: Low Pressure Boilers 5 <sup>th</sup> Edition		
This is a beginner’s class for those who wish to get the basic knowledge of “steam and hot water heating systems.” This provides the basic information to put you on the road to becoming a licensed engineer. This is not a prep course for the 6th Class license, although it may be useful. Intermediate English skills required. Course Curriculum Covers: Boilers: boiler room safety; boiler fittings; boiler room terminology; feed water accessories; fuel oil systems; combustion accessories; feed water systems; draft systems; water treatment; steam systems and boiler operations.		
LOW PRESSURE BOILERS / S-312-AL	5:00 pm to 8:30 pm	Alexandria, VA Location
16 Sessions		Alek Dlacic, Instructor
Wednesday, 1/17/2024 to 5/1/2024		
LOW PRESSURE BOILERS / S-310-AL	5:00 pm to 8:30 pm	Alexandria, VA Location
19 Sessions (2xW)		Mario Cerritos, Instructor
Monday & Thursday, 1/22/2024 to 4/1/2024		
LOW PRESSURE BOILERS / S-311-AL	5:00 pm to 8:30 pm	Alexandria, VA Location
16 Sessions		Mario Cerritos, Instructor
Tuesday, 2/20/2024 to 6/4/2024		
LOW PRESSURE BOILERS / S-316-GR	5:00 pm to 8:30 pm	Greenbelt, MD Location
19 Sessions (2xW)		Roger Simmons, Instructor
Monday & Thursday, 3/21/2024 to 5/23/2024		

## HIGH PRESSURE BOILERS – 60 HOURS

Books-\$242.33 • Tax-\$14.54 • Tuition : \$1,315.13 • Total \$1,572.00

Book: Boiler Operators, High Pressure Boiler Workbook 6<sup>th</sup> Edition

Completion of a Low-Pressure Boiler Course, or Licensure (DC 6; MD 3; NIULPE 3) is required. This is curriculum based on selected study materials for the DC Licensing Exam. Because the DC 3rd class test covers more than just steam, this course is not advertised as a prep course, but it focuses on the exam. Course Curriculum Covers: High pressure boilers; boiler fittings; water treatment; fuels and firing equipment; pumps; steam engines; automatic boiler control; boiler operation/maintenance and duplex pumps.

HIGH PRESSURE BOILERS / S-320-AL

20 Weeks

5:00 pm to 8:00 pm

Alexandria, VA Location

Tuesday, 2/27/2024 to 6/25/2024

William Tucker, Instructor

HIGH PRESSURE BOILERS / S-329-GR

20 Weeks

5:00 pm to 8:00 pm

Greenbelt, MD Location

Thursday, 2/29/2024 to 7/18/2024

Alex Colvin, Instructor

## Entry Level

## PLANT EQUIPMENT & OPERATIONS – 30 HOURS

Books-\$113.00 • Tax-\$6.78 • Tuition: \$714.22 • Total \$834.00

Book: Low Pressure Boilers 5<sup>th</sup> Edition

No pretest is required for this class. This course teaches the basic operation and maintenance of heating systems, air conditioning systems and auxiliary equipment. This 10-week course will also cover the preventive maintenance aspect of these systems. Course Curriculum Covers: Boiler operation and Air Conditioning systems - daily, monthly, and yearly preventive maintenance. Air handlers, pumps, towers, air compressors and other auxiliary equipment. Other topics include safety issues related to these systems and setting up preventive maintenance schedules for equipment.

PLANT, EQUIPMENT & OPERATIONS / S-330-GR

10 Sessions

5:00 pm to 8:00 pm

Greenbelt, MD Location

Tuesday, 3/12/2024 to 5/14/2024

Alex Colvin, Instructor

## READY TO WORK – 60 HOURS

Tuition Total \$1,000.00

The National Association of Power Engineers (NAPE) Educational Foundation is pleased to announce its new Ready 2 Work Engineering Kick-Start Program designed to provide you with the training you need to get started in this exciting career as an entry-level building engineer. You'll learn the basics of Career/Outlook and Professionalism, HVAC, Electrical Maintenance, Plumbing, Fire Alarm/Safety and more. A job fair will be included to help you put your training to use after you have successfully completed Ready 2 Work.

READY TO WORK – Engineering Kick-Start Program / S-150-AL

20 Sessions

5:00 pm to 8:00 pm

Alexandria, VA Location

Monday, 3/4/2024 to 7/22/2024

Alek Dlacic, Instructor



## License and Exam Preparation

VA JOURNEYMAN & MASTER MECHANICAL PREP COURSE – 45 HOURS		
Books-\$301.00 • Tax-\$18.06 • Tuition: \$1,064.94 • Total \$1,384.00		
Book: Modern Refrigeration 21 <sup>st</sup> Edition, International Code Book 2018, IMC Tabs 2018, IMC Flashcards 2018, IMC Study Companion/Flashcard Combo 2018		
A review for air conditioning, heating, sheet metal, and plumbing mechanics preparing for VA Journeyman or Master Mechanical License exams. For license information, call (804) 367-8500. Virginia and Maryland licenses are now reciprocal.		
VA Journeyman & Master Mechanical / -AL		
15 Sessions <b>TBD,</b>	5:00 pm to 8:00 pm	Alexandria, VA Location <b>TBD, Instructor</b>

LEED GREEN ASSOCIATE PREP COURSE – 16 HOURS		
Material -\$150 • Tuition: \$423 • Total \$573.00		
The LEED Green Associate (LEED-GA) credential is intended for professionals who want to demonstrate Green Building expertise in non-technical fields of practice. The Green Building Certification Institute (GBCI) has created this credential, which denotes basic knowledge of green design, construction and operations. Applications and fees for the LEED-GA examination are conducted through GBCI. Completion of this seminar is required for the Certified Supervising Engineer (CSE) Certificate.		
LEED-GA Exam Preparation / S-350-AL		
4 Sessions Monday, 3/11/2024 to 4/1/2024	1:00 pm to 5:00 pm	Alexandria, VA Location David Ferrera, Instructor

## Management

THE MANAGING ENGINEER – 45 HOURS		
Tuition: \$998.00 • Total \$998.00		
This course is recommended for individuals who have several years in the field and desire to learn the many aspects of a supervisor's fiduciary duties and responsibilities that they will encounter as a Managing Engineer. This course provides the student with an understanding and introduction to the tools, management skills, objectives, and general knowledge and understanding a supervisor needs to become an effective manager and leader. The course curriculum also covers the following: Business Writing (reports and email communication), Project Management, Organizational Skills, and Crisis Management. The course expands the student's knowledge of Word and Excel. Using Excel, students will create a budget for a building, including equipment and costs. This exercise challenges the students to generate a 5-year budget forecast that differentiates between a general operating budget and a Capitol Project budget. Students will improve their interpersonal skills for internal and external customer service. This course covers the interview process for both the interviewer and the interviewee. The class curriculum closes with a video presentation on a subject selected by the student and presented to their fellow classmates. This tool provides the student with an understanding of the skills needed to conduct meetings, give presentations, and speak in public. English skills in verbal and written communication are a requirement. This course is required to receive the Supervising Engineer Award. Advanced English skills required.		
The Managing Engineer / S-355-AL		
15 Sessions Monday, 3/4/2024 to 6/17/2024	4:00 pm to 7:00 pm	Alexandria, VA Location Gary Beach, Instructor

## Miscellaneous

### BLUEPRINT READING – 30 HOURS

Books-\$105.00 • Tax-\$6.30 • Tuition: \$856.70 • Total \$968.00

Book: Understanding Construction Drawings Mark W Huth 7<sup>th</sup> Edition, Architectural Ruler

Blueprint Reading / S-340-AL

10 Sessions

5:30 pm to 8:30 pm

Alexandria, VA Location

TBD,

TBD, Instructor

## Seminars

### CFC SEMINAR & TEST

Tuition: \$550.00 • Total \$550.00 (Test Included)

In this EPA approved program, topics will include CFC containment methods, legal requirements, existing and new refrigerants, and basic understanding of the refrigeration cycle and system components.

Format: Seminar for four sessions. Exam is on the last session.

CFC Seminar & Test – 12 HOURS / S-290-AL

4 Sessions

5:00 pm to 8:00 pm

Alexandria, VA Location

Thursday, 1/25/2024 to 2/21/2024

Ben Cook, Instructor

CFC Seminar & Test – 12 HOURS / S-291-AL

4 Sessions

5:00 pm to 8:00 pm

Alexandria, VA Location

Tuesday, 3/6/2024 to 3/27/2024

Jose Luis Villalobos, Instructor

Dates for **CFC Testing & Retesting** in Alexandria, VA on **FRIDAYS at 2 pm only**.

Test dates: **3/23/24; 7/19/24**. Please call for information 703-845-7055. No PO's accepted for payment. Registration closes Thursday prior to testing. 1<sup>st</sup> test \$90, Retest \$70 (if last test taken within three months)

### R-410A and NEW REFRIGERANTS SEMINAR

Tuition: \$260 • Total \$260 (Test Included)

**Prerequisites:** Air Conditioning I and CFC Universal. *This seminar will cover characteristics (pressures, etc.) of 410-A; evacuation requirements; servicing; installation; disposal; safety; cylinders, etc. The seminar is an exam preparation for NAPE's 410-A Certification test, which is administered at the end of the seminar. R-410 A Certification is required for the GCAR Certificate.*

R410-A – 6 Hours / F-132-AL

1 Session

Alexandria, VA Location

Saturday, TBD

TBD, Instructor

Others:

**NIULPE TESTS: Mario Cerritos 703-629-1707**



## **Important Dates for 2024**

**Friday, May 24<sup>th</sup>, 2024: Spring** Deadline for submitting applications for  
General Certificates

**Electrical Proficiency  
Air Conditioning & Refrigeration  
Engineering  
Supervising Engineer**

### **THERE WILL BE NO CLASSES ON:**

Martin Luther King Jr. Day, Monday, Jan 15  
President's Day, Monday, Feb 19  
Memorial Day, Monday, May 27  
Juneteenth, Wednesday, June 19  
Independence Day, Thursday, Jul 4  
Labor Day, Monday, Sept 2  
Columbus Day, Monday, Oct 14  
Veterans Day, Monday, Nov 11  
Thanksgiving Day, Thursday, Nov 28  
Christmas Day, Wednesday, Dec 25  
New Year's Day, Wednesday, Jan 1, 2025  
Classes will be held on all other days.

#### CLASS LOCATIONS: VA & MD

**Alexandria, VA (AL):** Classes are held at NAPEEF's 5520 Training Center, LLC facility at: 5520 Cherokee Avenue, Alexandria, VA, 22312, as well as in:

**Greenbelt, MD (GR):** Hanover Office Park, located at 7213 Hanover Parkway, Greenbelt, Maryland 20770