

Industrial Electrical & Mechanical Pre-Apprenticeship

Total Training Contact Hours: 392

Self-Study Hours (Approximate Amount): 106-164

DATES

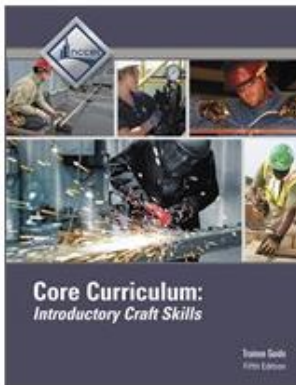
Online Sessions

Monday-Friday, 8 a.m. to 12 p.m.

In-Person Lab Sessions

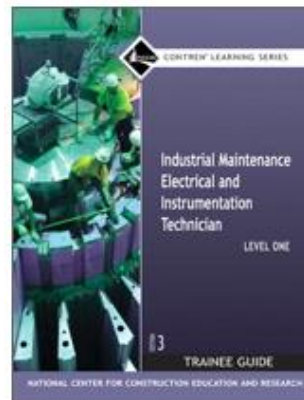
Monday-Friday, 7:30 a.m. to 4 p.m.

Certifications received: Chaffey College Certificate of Completion, Cal OSHA-10, & Amatrol Certificates.



Book to be Purchased:

NCCER Core Curriculum
Trainee Guide, 5th Edition
ISBN: 978-0-13-413098-9



NCCER IME&I Level 1 Trainee
Guide, 3rd Edition
ISBN #: 978-0-13-228606-0

OR

NCCER IMM Level 1 Trainee
Guide, 3rd Edition
ISBN: 978-0-13-228608-4

Book Loans Provided:

Delmar's Standard Textbook of Electricity, 6th Edition, ISBN: 978-1-28-585270-6

DISCLOSURE for In-Person Lab Sessions: To practice safe social distancing for in-person lab, students will be placed into two groups and alternate between lab and other online training.

INSTRUCTION TOPICS COVERED:

Soft Skills for the 21st Century

Book: Chaffey College InTech Center Career Readiness Workbook

Incorporated throughout the program, these tools for success modules allow individuals to receive vital soft skills that will help them succeed in their chosen industry. Trainees will receive instruction on resume building, interview skills, and basic communication and employability skills.

Introduction to Safety, Trade Math, Rigging and Tools

Basic Core Testing, Workability Skills, & Introduction to Material Handling

Book: Pearson Education, Inc. Core Curriculum Introductory Craft Skills. (5th/e), Prentice Hall, 2015

This course introduces basic safety and trade math for construction using OSHA approved standards by emphasizing how to follow safe work practices and procedures, introduction to hand and power tools, construction drawings and basic rigging.

This course provides students with techniques for communicating effectively with co-workers and supervisors, introduces critical thinking and problem-solving skills, and provides an introduction to material handling. Students also have the opportunity to demonstrate the skills learned in the classroom.

Fundamentals of Industrial Maintenance, Oxyfuel, and Craft Skills

Trade Math and Drawings, Material Handling, and Mobile Equipment

Book: Pearson Education, Inc. Industrial Maintenance Mechanic. (classic 3rd/e), Prentice Hall, 2009

Supplemental: Amatrol online software

This course is designed to give the student the fundamental skills necessary to increase success in the workforce, how to use Oxyfuel cutting equipment safely, and how to apply quantitative skills commonly used by industrial maintenance mechanics, such as gaskets, pumps, valves and lubrication. This course covers an introduction to test instruments along with an orientation of the tools of the trade, such as fasteners and anchors.

This course is designed to give the student the fundamental quantitative skills commonly used by industrial maintenance personnel. Topics include: ratios and proportions as they apply to industrial maintenance, basic algebra applicable to industrial maintenance, circumference problems as applied in industrial maintenance, solving for right triangles using the Pythagorean theorem applicable to the use of rigging, construction drawings, techniques of material handling, and mobile and support equipment.

Mechanical Blueprints and Drives

Book: Pearson Education, Inc. Industrial Maintenance Mechanic. (classic 3rd/e), Prentice Hall, 2009

Supplemental: Amatrol online software

These modules include different components related to reading and drawing mechanical and construction blueprints along with more in-depth learning to mechanical drives, gears, pumps and fasteners.

Introduction to Electricity

Industrial Basic Controls

PROVIDED BOOK: Herman, Stephen L., Delmar's Standard Textbook of Electricity. (6th/e), Delmar Publishing, 2011

Supplemental: Amatrol online software

This course is designed to provide the principles of basic electricity, including Ohm's Law, series and parallel circuits, conventional current theory, current flow, conductors and insulators, combination circuits, and power ratings.

This course provides a study of batteries and other sources of electricity, magnetism, magnetic induction, direct current generators, measuring instruments, and resistive and capacitive circuits.

Basic Hydraulics & Pneumatics

Supplemental: Amatrol – Basic Hydraulics & Basic Pneumatics

This course takes trainees through key topics in hydraulic power and safety, hydraulic circuits, hydraulic schematics, the principles of hydraulic pressure and flow, and hydraulic speed control circuits. In addition, trainees will learn about pneumatic power and safety, pressure regulation, how to connect pneumatic circuits, pneumatic cylinders, valves, and actuators, pressure and volume, and airflow resistance.

Introduction to Industrial Automation

Supplemental: Amatrol online software

This course takes trainees through key topics in electrical blueprints, process controls, programmable logic controllers and motor drives.