



Apprentice Meterman Training Program

Duration: 36 consecutive months

This is an aggressive electric meter training program that requires the personal commitment and the undivided attention of those enrolled. The key elements, subjects, and courses have been identified by HITT for training apprentice metermen who need these pieces to increase their awareness(es) of and knowledge for electricity metering.

The key elements and subjects are based in foundational skill development, which is the 'alphabet' of the metering language and necessary for understanding how to read, write, and speak metering. Upon completion of this program, apprentices will have gained the necessary skill sets and knowledge to obtain Journeyman level recognition.

12 Week Classroom Presentation and Study Material delivered by HITT

Instructor: Brad Harris

Vocabulary and Definitions included for all training subjects listed:

- Electric Meter Safety - Parts 1-5
- Electricity Training - Sections I-V
- Self-Contained Single Phase Metering Characteristics - Sections 1 and 2
- Mathematics for Electricity Metering - I-VII
- Vector Training for Electricity Metering - Parts 1-10
- Single Phase Power Transformer Theory and Connections - I and II
- Demand Metering - Parts 1-4
- Field Test Instruments and Equipment - Sections 1-4
- Instrument Rated Single Phase Metering Characteristics - Sections 1 and 2
- Instrument Transformers - I-IV
- Self-Contained Three Phase Metering Characteristics - Sections 1 and 2
- Self-Contained and Instrument Rated Metering Commonalities
- Three Phase Power Transformer Theory and Connections - I-IV
- Pulse Metering - Parts 1-3
- Instrument Rated Three Phase Metering Characteristics - Sections 1 and 2
- Reactive Metering Characteristics - Sections 1 and 2
- High Voltage Metering - Parts 1 and 2
- Metering Telemetry - Sections 1 and 2
- Totalizing Metering

The 12 weeks of in-class subjects are taught over a period of 36 consecutive months (4 weeks per year for 3 years, generally scheduled quarterly) with the first week being a Basic Electricity Course which is used to prepare and build a knowledge base for all attendees/apprentices going forward.

The duration of each week-long class is 32 hours, beginning at Noon Monday and ending at Noon Friday, with a full eight hours of class time Tuesday through Thursday. Classes are taught on-site at, or near the location of, the company.

Check Points - Five Progress Exams - A Skill Measurement Tool [not intended to be used as a resource for addressing disciplinary purposes] **Check point exams review subjects and examples taught in the classroom:**

- Single Phase Self-Contained Metering
- Single Phase Instrument Rated Metering
- Three Phase Self-Contained Metering
- Three Phase Instrument Rated Metering
- High Voltage Metering and Full Course Review

Check Point progress exams were created and designed to measure the metering skill set development and progress of the apprentices. Check Point exams will be administered by HITT and given to the apprentices during in-class training. These exams are a great teaching tool for the apprentice, their mentors, and the in-class instructor. These exams are not designed to remove an apprentice from the training program specifically, but to be combined with related factors to determine their overall progress in the program.

Training Books and Reference Materials* - The following training materials (except the Handbook for Electricity Metering) were created and developed for this program by HITT and are required for each participating apprentice:

- Handbook for Electricity Metering
- Meterman's Bible (Complete set of 3 books)
- Single Phase Metering - Proofs and Truths Explained
- Distribution Transformer Connections Training Manual
- Three Phase Metering Proofs and Truths Book
- Three Phase Primary Metering Proofs and Truths
- Specialty Metering Diagrams Reference Book

Workbooks are provided by HITT - Completed workbooks will also serve as field reference guides for the apprentice while doing field work and hands on training:

- Ohm's Law and Circuit Training Workbook
- Single Phase Metering Connections Workbook
- Single Phase Load Calculations Workbook
- Transformer Connections Workbook
- Electricity Vector Training Workbook
- Three Phase Metering Connections Workbook
- Three Phase Load Calculations Workbook
- Three Phase Primary Metering Connections Workbook
- Three Phase Primary Metering Load Calculations Workbook

*All training materials should also be readily available to the apprentices for reference, especially when they are performing field work and/or doing hands on training.

Electricity and Related Training Correspondence - An Optional Two Year Course* (This course is overseen by HITT. Materials are to be provided by an HITT approved vendor)

Subjects further covered in this 65-Lesson Self-Study course:

- Electrical Safety
- Basic Math Skills
- Algebra
- Computer Skills
- Electricity Measuring Devices
- DC and AC Principles
- Electricity
- Geometry and Trigonometry
- Electric Power Measurements
- Instrument Transformers
- Distribution and Power Transformers and Transformer Operation
- Distribution of Electric Power
- Conduit and Conductors
- Electrical Grounding
- Reactive Circuits
- Basic Electronic Circuits
- Telemetry

This is not a metering training course, but it is related and valuable training to help the apprentice increase their personal understanding, knowledge and skill set. Completing this course will be used as a measurement of an apprentice's overall progress and commitment to his or her apprenticeship, especially since the lessons are to be completed on their own time. Apprentices participating in the HITT Electrical Metering Apprenticeship Program should have comparable metering skills whether or not this 2 year course is used.

If this 65-lesson correspondence course is chosen, it will need to be purchased separately by an HITT approved vendor and each apprentice participating in the course will be expected to complete the lessons on schedule (within the two year time frame) and with passing scores. Each lesson has an exam associated with it and a passing score of >70% is required to deem the lesson as completed and achieved, (a make up exam will be given if necessary).

*Because this is not a meter training course, it is considered to be an optional training resource for the apprentices. However, with that being said, it is highly recommended by HITT that each apprentice participate in and complete this 2 year self-study course. The value of completing this course on their own time is a significant measurement to an apprentice's commitment of being fully involved in the training process.

Confidentiality Statement

The apprentice meterman training program contains proprietary and privileged information provided by HITT

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