

NASSAU BOCES - ADULT EVENING PROGRAM
Joseph M. Barry Career & Technical Education Center
1196 Prospect Ave.
Westbury, NY 11590

COURSE OUTLINE

Course Name: **Oil Burner II**
Weeks: 5
Sessions: 10
Hours 35
Days/Time Tue/Thu 6:30-10pm
Instructor: Dominick Conte
Required Textbook: NORA – Oil Heat Technicians Manual
Prerequisites: Oil Burner I
Adult evening Office: (516) 622-6950

Course Overview:

This course focuses on oil pump sizing, and the electrical application of oil burner motors, primary controls, and switching relays. The course also covers the electrical wiring of various heating systems, and discusses high efficiency oil burner technology. This is a Nassau BOCES *Green Certified* Course.

Certificate Program: Heating Systems Service Technician – Requires Oil Burner I and Oil Burner II, Plumbing I, Gas Burner and Hydronics. Total hours 207.

Course Topics

- Session 1 Oil line sizing for multiple boilers: Single and two pipe systems.
- Session 2 Oil pump selection for various applications: Single stage, two stage, and transfer lift pumps.

Trouble-shooting oil line problems utilizing various gauges and electronic instruments.
- Session 3 Oil burner motors: Split phase and permanent split capacitor.
- Session 4 Application and sizing of relays, contactors and starters in oil applications.

Application of R117 relays in series 10 and series 80 thermostats.
Review of various thermostats sub-bases for heating and cooling applications.

Application of R8184 & R7184 cad cell relays.
- Session 5 Sizing and trouble-shooting control transforms for multiple zone systems.

Mid-Term Exam
- Session 6 Application and trouble-shooting of double (L8148A) and triple function (L8124C) aquastats.

Application and wiring of switching relays (R89 & R845).

- Session 7 Understanding and application of zone control boxes for zone valves and zone circulators.
- Review low-water-cut off and pressure controls for steam systems, and the fan limit switch for warm air systems.
- Session 8 Develop complete wiring diagrams for residential hot water systems, steam systems, and warm air systems.
- Session 9 Combustion efficiency testing.* Setting up oil burners for maximum efficiency.
- High efficiency condensing boilers.*
- Review for Final Exam.
- Session 10 Final Exam

** These topics are Green Technology compliant*