Non-Licensed Operator

NOP 111
Hydraulic and Fluid Flows • 5.0 Credits
Introduction to the basic operations of hydraulic and fluid flows. Focuses on principles associated with lubrication, pumps, manual valves, valve operators, and components associated with strainers and filters. **Prerequisite: Completion of NT 111 with a 0.7 or higher.**

NOP 221
Advanced Operational Systems • 5.0 Credits
This course provides an introduction to electrical generation and distribution systems with a focus on transformers, motor and control circuits, generators, and the impact of environmental conditions. **Prerequisite: Completion of either ELT 111 or ELT 124 with a 0.7 or higher, and either NT 121 or NT 122 with a 0.7 or higher.**

NOP 231
Advanced Facility Components • 5.0 Credits
This course provides an introduction to steam systems with a focus on steam traps, steam turbines, heat exchangers, and related facility components. **Prerequisite: Completion of NT 111 with a 0.7 or higher, or instructor permission.**

NOP 241
Chemical & Water Treatment Systems • 5.0 Credits
Introduction to chemical and water treatment systems with a focus on chemical safety and reactions, ion exchange, UV oxidation, and permitting. **Prerequisite: Completion of CHEM& 140 with a 2.0 or better.**

NOP 251
Advanced Thermodynamics and Heat Transfer • 4.0 Credits
This course provides an introduction to industrial processes and cycles including steam plants, diesel generators, air compressors, and refrigeration cycles. It also covers advanced heat transfer topics including thermal hydraulics. **Prerequisite: Completion of NT 170 with a 0.7 or higher, or instructor permission.**