# PLUMBING (PL)

**PL 114 Pipe Fitting Basics**
4 Class Hours, 4 Quarter Credit Hours
Corequisites: PL 119
Students are introduced to a variety of piping material, fabrication techniques and tools of the trade, safety, and mathematical approaches.

**PL 118 Blueprint Reading and Drafting**
3 Class Hours, 3 Quarter Credit Hours
Corequisites: PL 114
This course covers basic drawing techniques and proper use of drafting equipment. Students will be introduced to different types of drawings, associated symbols, and terminology.

**PL 119 Pipe Fitting Basics Lab**
6 Lab Hours, 3 Quarter Credit Hours
Corequisites: PL 114
Students produce piping projects utilizing tools, piping materials and the applied mathematical procedures put forth in PL 114.

**PL 124 Drainage, Waste and Vent Design**
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: PL 114 and PL 119 and PL 118
Corequisites: PL 126, PL 127
Students are introduced to the different elements of plumbing design. Various codes and their requirements are covered. Students' designs are presented in a formal drawing.

**PL 126 Potable Water Piping Design**
3 Class Hours, 3 Quarter Credit Hours
Prerequisites: PL 114 and PL 119 and PL 118
Corequisites: PL 124, PL 127
Students study load calculations and appropriate sizing of domestic water systems. Various codes and methods are covered. Formal drawing presentation is a required portion of the course.

**PL 127 Drainage, Waste and Vent, and Potable Water System Lab**
6 Lab Hours, 3 Quarter Credit Hours
Prerequisites: PL 114 and PL 118 and PL 119
Corequisites: PL 124, PL 126
Students are required to install their drainage, waste and vent, and potable water plumbing designs in a laboratory setting. The designs must be fully operational and conform to code.

**PL 230 Plumbing Fixture, Appliance and Appurtenance**
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: PL 126 and PL 127
Corequisites: PL 232, PL 235
This course introduces students to fixtures, appliances and other related devices that are found in residential and commercial buildings. Code requirements and applications are also studied in order to balance fixture utility, rough-in needs and building design.

**PL 232 Troubleshooting and Repair**
1 Class Hours, 2 Lab Hours, 2 Quarter Credit Hours
Prerequisites: PL 124 and PL 126 and PL 127
Corequisites: PL 230, PL 235
This course explores the repair, service, and retrofit aspects of the plumbing business. Attention is given to structural concerns, repair approaches, product selection, and customer and trade relationships.

**PL 235 Plumbing System Design and Fixture Installation Lab**
6 Lab Hours, 3 Quarter Credit Hours
Prerequisites: PL 124 and PL 126 and PL 127
Corequisites: PL 230, PL 232
In this lab, students are required to design and install various plumbing systems from rough-in to finished fixtures. These will be actual working systems and meet all code requirements as well as trade practices.

**PL 240 Pump System Design**
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: PL 114 and PL 119 and PL 118
Students are introduced to residential and light commercial pumps and pumping systems. Students are required to design and size systems based on pump types and general requirements.

**PL 245 Pump System Design Lab**
6 Lab Hours, 3 Quarter Credit Hours
Corequisites: PL 240
Students are required to install basic water pumping systems from water source to pressurized storage tank. Various designs are used to reinforce application, component requirements and troubleshooting.

**PL 246 Final Project**
2 Class Hours, 2 Quarter Credit Hours
Prerequisites: PL 230 and PL 232 and PL 235
The final project is the summation of all the previous terms presented in a plumbing design which incorporates estimating and pricing. Students are required to design and draw a complete building project based on supplied specifications.