Process Technology (PRT)

Courses

PRT A101 Introduction to Process Technology 3 Credits
Introduction to industrial process operations through an overview of general information, processes, procedures and equipment.

PRT A110 Introduction to Process Safety, Health and Environmental Awareness 3 Credits
Introduction to safety, health and environmental awareness within the process industry. Examines types of hazards and applicable government regulations, and current industry standards and practices. Analyzes the potential for harm to an individual and to the environment due to unsafe conditions. Covers various types of preventative procedures, systems and equipment.

PRT A130 Process Technology I: Equipment 4 Credits
Examines various types of process equipment through an in-depth analysis of construction, components and operation. Covers process flows, piping diagrams, economic impact, plus safety and environmental aspects. Surveys preventative maintenance and troubleshooting procedures.

Registration Restrictions: Admitted students in Process Technology AAS, Industrial Process Instrumentation AAS, Petroleum Technology Undergraduate Certificate or Mechanical Technology Undergraduate Certificate
Prerequisites: PRT A101 and MATH A105 or concurrent enrollment.

PRT A140 Industrial Process Instrumentation I 3 Credits
Introduction to the terminology and symbolism encountered in process instrumentation. The common process variable measurement tools used industrially are explored.

Registration Restrictions: Degree-seeking Process Technology or Industrial Process Instrumentation students.
Prerequisites: MATH A105 or concurrent enrollment.

PRT A144 Industrial Process Instrumentation II 3 Credits
Introduction to continuous control strategies and final control elements utilized for process control. The use of discrete alarm and shutdown systems is also introduced. Shop experiences provide the opportunity to understand pneumatic measurement, transmission, and control functions.

Registration Restrictions: Degree-seeking Process Technology or Industrial Process Instrumentation students.
Prerequisites: PRT A140.

PRT A160 Oil and Gas Exploration and Production 1 3 Credits

Registration Restrictions: Admitted students in the Petroleum Technology Undergraduate Certificate or Process Technology AAS

PRT A170 Renewable Energy Production and Operation 3 Credits
Surveys renewable energy production systems and their operation. Includes technical development, economic viability, grid integration, energy storage, and location issues. Overview of Alaska renewable energy production systems.

Prerequisites: MATH A055.

PRT A230 Process Technology II: Systems 4 Credits
Examines how individual components interact as part of a specific process system. Covers how specific process systems integrate and function within a process facility. Reviews the scientific principles incorporated in the proper working of process systems. Surveys a selection of process industries with emphasis directed toward those located in Alaska.

Registration Restrictions: Admitted students in the Petroleum Technology AAS, Industrial Process Instrumentation AAS or Petroleum Technology Undergraduate Certificate
Prerequisites: PRT A130 and PRT A140.

PRT A231 Process Technology III: Operations 4 Credits
Examines the different operational phases found in a process operation. Covers the operation of a variety of Alaska process industries and an overview of their operator duties.

Registration Restrictions: Admitted students in the Process Technology AAS or Petroleum Technology Undergraduate Certificate
Prerequisites: PRT A144 and PRT A230 and PRT A250 or concurrent enrollment.

PRT A250 Process Troubleshooting 3 Credits
Introduces the concept of troubleshooting and analyzes how instrumentation such as indicators, variables and controllers can be used for effective troubleshooting. Develops troubleshooting skills that can be used effectively throughout the process industry.

Registration Restrictions: Admitted students in the Process Technology AAS, Petroleum Technology Undergraduate Certificate or Industrial Process Instrumentation AAS
Prerequisites: PRT A144 or concurrent enrollment and PRT A230.

PRT A255 Quality Concepts for the Process Industry 1 Credit
Examines quality concepts, tools and methods used in the process industry and covers the effectiveness of their implementation and continued use. Investigates root cause analysis problem solving techniques. Examines methods necessary to facilitate effective teams and teamwork interaction.

Registration Restrictions: Admitted students in the Process Technology AAS
Prerequisites: PRT A230 or concurrent enrollment.
PRT A280 Industrial Petrochemical Processes 3 Credits

Registration Restrictions: Admitted students in the Petroleum Technology Undergraduate Certificate, Process Technology AAS or Industrial Process Instrumentation AAS

Prerequisites: PRT A230 with a minimum grade of C.