PROCESS TECHNOLOGY (PTEC)

PTEC 1013, Intro to Process Technology (3 Credit Hours)
3 lecture hours per week, 0 lab hours per week, 3 contact hours per week
Introduces the student to the field of process operations within the process industry. It reviews the roles and responsibilities of the Process Technician. This course may not be transferable to a university to apply towards a four-year degree program.

PTEC 1312, Process Instrumentation (2 Credit Hours)
2 lecture hours per week, 0 lab hours per week, 2 contact hours per week
Introduces the student to the equipment and methodologies used by the industry for monitoring performance and controlling processes. Topics addressed include common terminologies, basic principles of measurements and instrumentation, specific hardware, performance characteristics, control loops, typical applications and operating limits. This course may not be transferable to a University for use toward a 4-year degree program.
Prerequisite(s): (PTEC 1013 or 1010) and (PTEC 2033 or 2030).

Corequisite(s): PTEC 1322

PTEC 1322, Process Instrumentation Lab (2 Credit Hours)
0 lecture hours per week, 4 lab hours per week, 4 contact hours per week
Introduces students to laboratory exercises and activities involving equipment and methodologies used by industry for monitoring performance and controlling processes. Topics include common terminologies, basic principles of measurement and instrumentation, specific hardware, performance characters, control loops, typical applications, and operating limits. This course may not be transferable to a university to apply towards a four-year degree program. This course requires a lab fee.
Prerequisite(s): (PTEC 1013 or 1010) and (PTEC 2033 or 2030).

Corequisite(s): PTEC 1312

PTEC 1612, Plant Equipment (2 Credit Hours)
2 lecture hours per week, 0 lab hours per week, 2 contact hours per week
Covers process plant equipment, including the construction, principles of operations, maintenance, and utilization of plant equipment within the process industry. Equipment to be studied includes piping, valves, pumps, compressors, heat exchangers, fired furnaces, steam and gas turbines. This course may not be transferable to a university to apply towards a four-year degree program.
Prerequisite(s): ((PTEC 1013 or 1010) and (PTEC 2033 or 2030) and (PTEC 1622* or 1631)) or (CADD 1204 and PTEC 1622*) or (DRFT 1113 and PTEC 1622*).
* May be taken concurrently.

PTEC 1622, Plant Equipment Lab (2 Credit Hours)
0 lecture hours per week, 4 lab hours per week, 4 contact hours per week
Provides laboratory exercises and activities complementing Plant Equipment and includes materials of construction, principles of operations, maintenance, and utilization within the process industry. Equipment to be studied includes piping, valves, pumps, compressors, heat exchangers, fired furnaces, steam and gas turbines. This course may not be transferable to a university to apply towards a four-year degree program. This course requires a lab fee.
Prerequisite(s): (PTEC 1013 or 1010) and (PTEC 2033 or 2030) and (PTEC 1612* or 1630).
* May be taken concurrently.

Corequisite(s): PTEC 1612

PTEC 2033, Plant Health, Safety, & Enviro (3 Credit Hours)
3 lecture hours per week, 0 lab hours per week, 3 contact hours per week
Provides a general overview of various types of plant hazards, safety and environmental systems and equipment, and the regulations under which plants are governed and operated. This course may not be transferable to a university to apply towards a four-year degree program.

PTEC 2073, Process Quality Control (3 Credit Hours)
3 lecture hours per week, 0 lab hours per week, 3 contact hours per week
Focuses on continuous quality improvement within business and industry. Critical thinking, decision-making, quality improvement tools, workflow, production, and scheduling will be points of study. The course introduces various quality improvement concepts including operating consistency, total quality management, plant economics, team skills, and statistical process control (SPC). This course may not be transferable to a university to apply towards a four-year degree program.
Prerequisite(s): (MATH 1213, 1100 or 1203) and (PTEC 1312* or 1330) and (PTEC 1322* or 1331) and (PTEC 1612* or 1630) and (PTEC 1622* or 1631).
* May be taken concurrently.

PTEC 2321, Process Systems Lab (1 Credit Hour)
0 lecture hours per week, 2 lab hours per week, 2 contact hours per week
Provides laboratory exercises complementing Process Systems using existing knowledge of equipment, and instrumentation. Concepts covered will be related to design, line-tracing, and identification of control loops. This course may not be transferable to a university to apply towards a four-year degree program. This course requires a lab fee.
Prerequisite(s): (MATH 1213, 1100 or 1203) and (PTEC 1312 or 1330) and (PTEC 1322 or 1331) and (PTEC 1612 or 1630) and (PTEC 1622 or 1631).

Corequisite(s): PTEC 2323

PTEC 2323, Process Systems (3 Credit Hours)
3 lecture hours per week, 0 lab hours per week, 3 contact hours per week
Covers the interrelation of process equipment and process systems. Students will arrange process equipment into basic systems; describe the purpose and function of specific process systems; explain how factors affecting process systems are controlled under normal conditions; and recognize abnormal process conditions. In addition, students are also introduced to concepts of systems and plant economics. This course may not be transferable to a university to apply towards a four-year degree program.
Prerequisite(s): (MATH 1213, 1100 or 1203) and (PTEC 1312 or 1330) and (PTEC 1322 or 1331) and (PTEC 1612 or 1630) and (PTEC 1622 or 1631).

Corequisite(s): PTEC 2321

PTEC 2412, Unit Operations (2 Credit Hours)
2 lecture hours per week, 0 lab hours per week, 2 contact hours per week
Presents the overall concept of unit (plant) operations. The student will demonstrate a thorough working knowledge of process control terminology, and the application of these processes as learned in previous courses. This is a hand- on class where the student will bring together all previous PTEC learning and demonstrate proper operation of processes used in industry. Research and oral projects are included in this course. This course may not be transferable to a university to apply towards a four-year degree program.
Prerequisite(s): (PTEC 2073 or 2070) and (PTEC 2323 or 2420) and (PTEC 2321 or 2421) and (PTEC 2633 or 2630).

Corequisite(s): PTEC 2422

PTEC 2422, Unit Operations Lab (2 Credit Hours)
0 lecture hours per week, 4 lab hours per week, 4 contact hours per week
Provides laboratory exercises complementing Unit Operations and includes process simulations and other activities that occur within the process industry. The course builds on students' existing knowledge of equipment, systems, and instrumentation. Concepts covered will be related to commissioning, normal startup, operations, normal shutdown, turnarounds, safety, environmental, and abnormal situations, as well as the process technician's daily roles and responsibilities in performing tasks associated with concepts utilized within an industrial processing unit. This course may not be transferable to a university to apply towards a four-year degree program. This course requires a lab fee.
Prerequisite(s): (PTEC 2073 or 2070) and (PTEC 2323 or 2420) and (PTEC 2321 or 2421) and (PTEC 2633 or 2630).

Corequisite(s): PTEC 2412

PTEC 2443, Process Troubleshooting (3 Credit Hours)
3 lecture hours per week, 0 lab hours per week, 3 contact hours per week
Applies a six-step troubleshooting method for solving and correcting operating problems. The focus is on malfunctions as opposed to process design or configuration improvements. Data from the instrumentation is used to determine the cause for the abnormal conditions in an organized and regimented way. Troubleshooting and analysis of processes and equipment learned in prerequisite courses will be done. Group and individual assignments and reports are included in this course. This course may not be transferable to a university to apply towards a four-year degree program. This course requires a lab fee.
Prerequisite(s): (PTEC 2073 or 2070) and (PTEC 2323 or 2420) and (PTEC 2321 or 2421) and (PTEC 2633 or 2630).

PTEC 2633, Fluid Mechanics (3 Credit Hours)
3 lecture hours per week, 0 lab hours per week, 3 contact hours per week
Addresses fluids, fluid types, chemical and physical natures and factors affecting fluids while in motion. Review of basic calculations relative to flow and volume. Discussion on other topics such as laminar/turbulent flow, viscosity, and Reynolds number. This course may not be transferable to a university to apply towards a four-year degree program.
Prerequisite(s): (MATH 1213, 1100 or 1203) and (PTEC 1312* or 1330) and (PTEC 1322* or 1331) and (PTEC 1612* or 1630) and (PTEC 1622* or 1631).
* May be taken concurrently.

PTEC 2913, Internal Capstone (3 Credit Hours)
0 lecture hours per week, 6 lab hours per week, 6 contact hours per week
Offers hands-on learning rotations through the College's functioning equivalents to plant facilities at the site where the course takes place, with comparable on-the-job capstone experiences. Students complete a minimum of 90 hrs at an RPCC instructional site and will be evaluated by the instructor on all required performances as set forth in the capstone course learning outcomes. Students will have an exit interview in the form of a final presentation before the students and instructor. This course may not be transferable to a university to apply towards a four-year degree program. This course requires a fee for learning materials and a lab fee.
Prerequisite(s): (PTEC 2073 or 2070) and (PTEC 2323 or 2420) and (PTEC 2321 or 2421) and (PTEC 2633 or 2630).

Corequisite(s): PTEC 2412, PTEC 2422 and PTEC 2443

PTEC 2993, External Capstone (3 Credit Hours)
0 lecture hours per week, 9 lab hours per week, 9 contact hours per week
Includes actual on-the-job experiences developed through a cooperative venture between the Process Industry and River Parishes Community College. Students complete 135 hrs at an industry plant and will be evaluated on all required performances as set forth by the plant capstone objectives by plant personnel where the capstone takes place. Students will have an exit interview with the PTEC instructor before the plant capstone class is considered complete. This course may not be transferable to a university to apply towards a four-year degree program.
Prerequisite(s): (PTEC 2073 or 2070) and (PTEC 2323 or 2420) and (PTEC 2321 or 2421) and (PTEC 2633 or 2630).

Corequisite(s): PTEC 2412, PTEC 2422 and PTEC 2443