# 8/13/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 28 August 2020

Term and Year of Implementation: Fall 2020

**Course Title:** Process Technology III Operations

**BRCC Course Rubric:** PTEC 2432

**Previous Course Rubric**:

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 2-0-2

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 30-0-30

**Louisiana Common Course Number:**

**CIP Code:** 15.0613

**Course Description:** Covers the operation of an entire unit within the process industry using existing knowledge of equipment, systems, and instrumentation. Includes concepts related to commissioning, normal startup, normal operations, normal shutdown, turnarounds, and abnormal situations, as well as the process technician’s role in performing the tasks associated with these concepts within an operating unit.

**Prerequisites:** [PTEC 2073 (or PTEC 207)] and [PTEC 2423 (or PTEC 242)] and [PTEC 2421] and [PTEC 2633 (or PTEC 263)] with grades of "C" or better

**Co-requisites:** PTEC 2442

**Suggested Enrollment Cap:** 10

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Describe how an operator would startup and operate a plant under normal operation conditions by using process diagrams (piping and instrumentation diagrams (P&IDs), process flow diagrams (PFDs)).

2. Describe the major steps performed during startup (initial commissioning, routine startup, and startup following a turnaround) of a process to meet normal operating conditions, including safety and environmental regulations.

3. Describe the roles and responsibilities of a process technician during normal operating activities (shift change, monitoring controls and equipment, sampling, communications, etc.).

4. Identify appropriate corrective actions for returning an abnormal process to a steady-state operation and for performing a safe emergency shutdown in an abnormal situation.

5. Describe the major steps performed during normal shutdown activities, including meeting safety and environmental regulations.

6. Describe steps taken to safely prepare equipment for both routine and shutdown maintenance activities (e.g. isolation, decontamination, permitting) and then returning equipment to service.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Assessment measures may include, but are not limited to, essays, presentations, speeches, portfolios, performances, individual and collaborative projects, in-class activities, lab reports, homework, computer-based training (CBTs) modules, quizzes, exams, industry-based standards, and/or simulated training activities.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

1. The Operation Unit
2. Initial Unit Startup – Major Activities
3. Normal Startup – Overview and Communication
4. Normal Startup – Equipment Inspection
5. Normal Startup – Removal of Energy Isolation Devices
6. Procedure Writing
7. Normal Startup – Utilities and Auxiliaries
8. Normal Startup – Process Unit
9. Normal Ops – Monitor Unit (Overview)
10. Normal Ops – Monitor Unit (Field Tech)
11. Normal Ops – Monitor Unit (Board Tech)
12. Normal Ops – Other Duties
13. Normal Ops – Comply with Safety, Health, and Environmental (SH&E) Policies
14. Normal Ops – Verbal Communication
15. Normal Ops – Written Communication and Shift change
16. Abnormal Ops – Emergency Ops, Situations, and Table Top Drill
17. On-the-Job Training (OJT)
18. Normal Shutdown – Overview, Communication & Shutdown Unit
19. Equipment Maintenance – Overview and communications
20. Equipment Maintenance –Economic Impact
21. Equipment Maintenance – SHE&E Impact
22. Equipment Maintenance – Documentation and Permits
23. Equipment Maintenance – Equipment Isolation
24. Turnarounds