

Brazosport College

Syllabus for PTAC 1454 – Industrial Processes

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I. COURSE DESCRIPTION:

PTAC 1454 - Industrial Processes CIP 4103010003

The study of the common types of industrial processes. **Credit Hours: 4** (4 lecture, 0 lab)

Chad Abney

Danny Randolph

Gregg Curry

Karl Grossman

Kenneth Resecker

Ed Smolen

Mark Stoltenberg

Gary Hicks

Dr. Mitchell Seal

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A. Prerequisite: Grade of “C” or better in **PTAC 1432** and **PTAC 1410**.

Required skill level: College - level reading and writing. Math: College-level with corequisite (placement code 3).

II. COURSE OBJECTIVES

Explain and demonstrate the operation through simulation of various process control strategies used in industrial processes

- Close Loop
- Cascade
- Feed-forward
- Ratio
- Multi-variable

Explain and demonstrate the operation through simulation of equipment used in industrial processes.

- Pumps
- Heat Exchangers/Condensers
- Mixed Tanks
- Flash Tanks
- Boilers
- Furnaces
- Cooling Towers
- Compressors

Describe some common unit operations used in industrial processes

- pH Control
- Distillation

III. STUDENT LEARNING OUTCOMES

OUTCOME	METHOD OF ASSESSMENT
Explain the operation of common instrumentation and process control strategies used in industrial processes	Exam 1
Explain the operation of common equipment used in industrial processes	Exam 2
Operate computer simulators of common industrial equipment and processes	Simulation/project grade.

IV. TEXTBOOK OR COURSE MATERIAL INFORMATION

A. Textbook

1. No textbook, materials provided by instructor.

Required course materials are available at the Brazosport College bookstore, on campus or online at <http://brazosport.edu/bookstore/home.html>. A student of this institution is not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.

For Distance Education Courses include the following: Contact the Brazosport College Bookstore with a credit card for course materials. Phone: 979-230-3651. Fax: 979-230-3653. Email: bookstore@brazosport.edu. Website: <http://brazosport.edu/bookstore/home.html>

B. Course Outline

The course will cover the components of industrial processes from the equipment/instruments which are the building blocks for a unit operation and then how the various unit operations form a chemical/refining plant. Many of these topics will be reinforced through computer simulation.

This is a sample outline which may vary with individual instructors. It will also vary based on whether the course is a summer course or a fall/spring course. Students should contact their instructor for the outline of the course they are taking.

Weeks 1-4:

- Process Control

Weeks 5-12

- Equipment

Weeks 12-15

- Unit Operations

The course will be a capstone course, which will cover the components of industrial processes from the equipment/instruments which are the building blocks for a unit operation and then how the various unit operations form a chemical/refining plant. Most of these topics will be reinforced through computer simulation.

Important Semester Dates:

Last Day to Withdraw from Classes– Check BC Academic Calendar at <http://catalog.brazosport.edu/index.php>

Office Hours:

For fulltime faculty, office hours may change from semester to semester. Current faculty office hours are included on the syllabus, see link: <https://brazosport.edu/faculty-and-staff/resources/course-syllabi-instructor-information/>

For an adjunct faculty, no office hours are required, and they are not assigned an office. To set up an appointment with an adjunct, contact the instructor as per the email address on the syllabus, see link: <https://brazosport.edu/faculty-and-staff/resources/course-syllabi-instructor-information/>

V. STUDENTS WITH DISABILITIES

Brazosport College is committed to providing equal education opportunities to every student. BC offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. For student to receive any accommodation, documentation must be completed in the Office of Disability Services. Please contact Phil Robertson, Special Populations Counselor at 979-230-3236 for further information.

VI. TITLE IX STATEMENT

Brazosport College faculty and staff are committed to supporting students and upholding the College District's non-discrimination policy. Under Title IX and Brazosport College's policy FFDA (Local), discrimination based on sex, gender, sexual orientation, gender identity, and gender expression is prohibited. If you experience an incident of discrimination, we encourage you to report it. While you may talk to a faculty or staff member at BC, please understand that they are "Responsible Employees" and must report what you tell them to college officials. You can also contact the Title IX Coordinators directly by using the contact information below. Additional information is found on the Sexual Misconduct webpage at www.brazosport.edu/sexualmisconduct.

VII. ACADEMIC HONESTY

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately.

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication, and may, at a minimum, result in F, in this course. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services. Please refer to the Brazosport College Student Guide for more information. This is available online at <http://brazosport.edu/students/for-students/student-services/>.

VIII. ATTENDANCE AND WITHDRAWAL POLICIES

Class attendance contributes to your final grade, but you must attend class to successfully complete the course. If you are unable to complete this course, you must complete and submit a withdrawal form with the registrar's office. If the student decides to drop out of the class, it is the responsibility of the student to initiate a withdrawal before the withdrawal deadline in order to get a "W" on their transcript. If this is not done the student will receive a grade based on test grades and class grades earned during their attendance and absence (i.e., zeros on all missed materials, exams, skills tests, and final exam).

IX. COURSE REQUIREMENTS AND GRADING POLICY TESTING MAKE-UP POLICY

The final grade will be based on the following:

Simulation/Class Assignments/Participation	40%
Lecture Exams/Final	60%

Grades are assigned as follows:

Grade	Final Average
A	90-100
B	80-89
C	70-79
D	60-69
F	Below 60

1. Class Attendance

Much of the learning occurs in the classroom setting and cannot be made up by reading the textbook. Therefore, class participation is essential to your learning and attendance will be taken.

2. Class Participation

Your participation grade is based on the quality (not frequency) of your contribution. Those receiving high grades in class participation will be those who:

- Are prepared for class
- Arrive to class on time
- Have excellent attendance
- Make comments and ask questions that significantly contribute to the learning environment of the class
- Participate in simulator exercises and class assignments

X. STUDENT CONDUCT STATEMENT

Students are expected to be aware of and follow the Brazosport College Student Code of Conduct. Students have violated the Code if they “fail to comply with any lawful directions, verbal or written, of any official at BC.” Lawful directions include precautions and requirements taken to prevent the spread of COVID-19 at Brazosport College. Students who do not follow safety requirements, including the wearing of a mask, may be removed from class by their instructor and referred to the Dean of Student Services.

XI. COVID-19 STATEMENT

At Brazosport College, all of us, including faculty, staff, and students, share a common goal this spring semester, to keep our classes running in the safest manner possible and avoid any disruption to your progress in achieving your educational and career goals. To that end, we ask and encourage you to conduct yourself in the following manner while on campus this semester:

- Every day, perform a self-health check prior to coming to campus and stay home if sick.
- To the greatest extent possible, maintain your distance between you and other students, faculty, and staff while on campus.

- Wear a properly fitted face covering over your mouth and nose while indoors on campus. If you do not have a mask, they will be available to you in all classrooms this spring. Practice good hygiene, washing your hands regularly and/or using hand sanitizer.
- The most effective way to protect yourself from Covid-19 is through vaccination. The vaccine is readily available and at no cost to you. Vaccine information and availability can be found at <https://brazosport.edu/coronavirus/vaccine/>.

If at any time this semester you begin to experience Covid symptoms, or if you are exposed to someone who has tested positive for Covid-19, please take the following steps:

- Stay home if you're feeling sick and minimize your contact with others.
- Alert the College by completing the Covid-19 Exposure Report Form online at <https://brazosport.edu/coronavirus/report/>. Be sure to provide accurate contact information, including a working phone number that you will answer.
- After submitting the report, you will be promptly contacted by a member of our Rapid Response Team, who will ask you some specific questions about your situation and provide you with guidance moving forward.
- If it is determined that you should not come to class, your instructor will be notified. **Please know that your instructor will consider course adjustments and potential make-up work only if your case has been reported to Brazosport College, and they've been notified by our response team.** Your instructor will work with you to determine how to manage any make-up work.

The Community Health Network (CHN) Clinic at Brazosport College is located in BC Central B-Wing. While walk-ins are available, your visit will be easier if you pre-register by creating an account at www.mychn.org. In addition to providing health and behavioral services, CHN also provides COVID vaccinations and testing. All insurance is accepted, and healthcare is provided on a sliding scale including no cost for those who need it.

Throughout the semester, please regularly check the College's Covid-19 information page at <https://brazosport.edu/coronavirus/>, where the latest updates and guidelines will be posted. As members of the BC community, all of us share a responsibility to each other to be as safe as possible.

XII. CAMPUS CLOSURE STATEMENT

Brazosport College is committed to the health and safety of all students, staff, and faculty and adheres to all federal and state guidelines. The College intends to stay open for the duration of the semester and provide access to classes and support services on campus in the safest way possible. The College will also comply with lawful orders given by applicable authorities, including the Governor of Texas, up to and including campus closure. It is possible that on campus activities may be moved online and/or postpone if such orders are given.

XIII. STUDENT RESPONSIBILITIES

Students are expected to fully participate in this course. The following criteria are intended to assist you in being successful in this course:

1. Understand the syllabus requirements
2. Use appropriate time management skills
3. Communicate with the instructor
4. Complete course work on time, and
5. Utilize online components (such as Desire2Learn) as required.

XIV. OTHER STUDENT SERVICES INFORMATION

Information about the Library is available at <http://brazosport.edu/students/for-students/places-services/library/about-the-library/> or by calling 979-230-3310.

For assistance with online courses, an open computer lab, online and make-up testing, audio/visual services, and study skills, visit Learning Services next to the Library, call 979-230-3253, or visit <http://brazosport.edu/students/for-students/places-services/learning-services/>.

For drop-in math tutoring, the writing center, supplemental instruction and other tutoring including e-tutoring, visit the Student Success Center, call 979-230-3527, or visit <http://brazosport.edu/students/for-students/student-success-center/math-center/>.

To contact the Physical Sciences and Process Technologies Department call 979-230-3618.

The Student Services provides assistance in the following:

Counseling and Advising	979-230-3040
Financial Aid	979-230-3294
Student Life	979-230-3355

To reach the Information Technology Department for computer, email, or other technical assistance call the Helpdesk at 979-230-3266.



Get the information you need – when you need it. Click <http://geni.us/BRAZO> to install **BC Connect** on your mobile device to receive reminders, explore careers, map your educational plan, be in the know about events, find out about scholarships, achieve your goals and much more.