

Process Technology III (PTAC 2438)



Credit: 4 semester credit hours (3 lecture, 3 hours lab)

MODE OF INSTRUCTION

Hybrid (lecture material online/lab in person)

Prerequisite/Co-requisite: PTAC 1332, PTAC 1410, SCIT 1494/PTAC 2420

Course Description

This course emphasizes activities associated with the hands-on operations of process equipment.

Required Textbook and Materials

1. *Process Technology Plant Operations*, 2nd Edition; Speegle.
ISBN: 1133950159
2. *Simtronics Student Workbook* (Kampus Korner Bookstore only)
3. Equipment (To be purchased by the student)
 - a. fire retardant clothing
 - b. hardhat
 - c. safety glasses
 - d. ear plugs
 - e. gloves
 - f. shoes (no open toes/sandals)

Course Objectives

Upon completion of this course, the student will be able to:

1. Operate various process systems;
2. Work in self-directed teams;
3. Write and follow safety and operational procedures;
4. Collect and use data for determination of process specifications.
5. Perform Lockout/Tag Out of a single stage centrifugal pump.

Course Outline

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| A. Introduction | G. Emergency Response Teams |
| 1. Introduction of faculty and students | H. Process Physics |
| 2. Review Syllabus | I. Quality for Operators |
| 3. Review Class Policies | J. Process Economics for Operators |
| 4. Review Lab & Unit Assignments | K. Communication for Operators |
| B. The Process Technician Today | L. Instrumentation Review for Operators |
| C. Jobs in the Processing Industries | M. Routine Operator Duties |
| D. John's Twelve-Hour Shift | N. Process Samples & Common Analytical Tests |
| E. Operator Safety | O. Operator Maintenance Duties |
| F. Environmental Compliance & Title | P. Material Handling I: Bulk Liquids |
| | Q. Material Handling II: Bulk Solids |

Approved 12/2009

PTAC 2438
Course Syllabus

R. Material Handling III: Oil Movement
& Storage
S. Process Unit Shutdown
T. Process Unit Turnaround

U. Process Unit Star-Up
V. Abnormal Situations
W. Process Troubleshooting

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Evaluation

Final grades will be calculated according to the following criteria:

Activity	Percentage
Homework	10%
Tests	40%
Lab	50%

Course Requirements

1. Supply all necessary PPE.
2. Operate all aspects of the unit and controls.
3. ALL students will participate in the 48 hour distillation unit operation regardless of prior or current experience. Additionally, students who are currently in the co-op program will still be expected to participate in the 48 hour run.

Attendance Policy

1. Missing more than 20% of classes will result in an automatic “F” for the course.
2. Absences are counted for unexcused, excused and coming to class late.
3. Missing more than 20% of a class period will count as an absence.
4. Being tardy 2 times equals 1 absence.

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. Beepers, telephones, headphones, and other electronic devices must be turned off while in class.
3. Do not bring children to class.
4. Assignments submitted late will be reduced 10 points each day.

5. If a test is missed due to an emergency situation, the student will have one week to make it up; otherwise a grade of 0 will be assigned. Students are responsible for scheduling the make-up date.
6. No cheating of any kind will be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class for the semester. Cheating can result in expulsion from LIT.
7. A student who wishes to drop a course is responsible for initiating and completing the drop process. A student who stops coming to class, and fails to drop the course, will earn an "F" in the course.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the online resource: <http://www.lit.edu/depts/stuserv/special/defaults.aspx>

Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office.

Supplemental Instruction

Supplemental Instruction (SI) consists of group tutoring sessions conducted once a week for 50 minutes for selected subjects. The SI Leader is a peer who helps students learn difficult content in those specific courses. The SI Leader attends the class with the students to keep up with the course content and engage students in interactive learning strategies at the 50 minute sessions. For this course, the supplemental instruction session will be held on WE DO NOT HAVE SUPPLEMENTAL INSTRUCTION. See your instructor for assistance.

Starfish

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.



COURSE CALENDAR

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
Week 1	Orientation	Ch 1	Syllabus Test
	Distillation Drawings and Unit Overview	Ch 2 & 3	Syllabus Acknowledgement
	Centrifugal Pump & Lockout / Tagout	Ch 4	
	Valves, pumps, compressors	Ch 5, 6	Pump Test
Week 2	Review Unit Sections	Ch 7, 8 and 9	Online Test #1 Due & Assignment #1 Due
	Review Unit Sections	Ch 10, 11, 12	
Week 3	Run Unit	Ch 13	Online Test #2 Due
	Run Unit	Ch 14 and 15	Assignment # 2 Due
	Run Unit	Ch 16	
Week 4	Run Unit	Ch 17 and 18	Online Test #3 Due
	Run Unit	Ch 19 and 20	
Week 5	Run Unit		Online Test #4 Due
	Run Unit		Final Exam