

## Process Technology III (PTAC 2438)



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

**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*, 2<sup>nd</sup> 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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| <p>A. Introduction</p> <ol style="list-style-type: none"><li>1. Introduction of faculty and students</li><li>2. Review Syllabus</li><li>3. Review Class Policies</li><li>4. Review Lab &amp; Unit Assignments</li></ol> <p>B. The Process Technician Today</p> <p>C. Jobs in the Processing Industries</p> <p>D. John's Twelve-Hour Shift</p> <p>E. Operator Safety</p> <p>F. Environmental Compliance &amp; Title V</p> | <p>G. Emergency Response Teams</p> <p>H. Process Physics</p> <p>I. Quality for Operators</p> <p>J. Process Economics for Operators</p> <p>K. Communication for Operators</p> <p>L. Instrumentation Review for Operators</p> <p>M. Routine Operator Duties</p> <p>N. Process Samples &amp; Common Analytical Tests</p> <p>O. Operator Maintenance Duties</p> <p>P. Material Handling I: Bulk Liquids</p> <p>Q. Material Handling II: Bulk Solids</p> |
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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.
1. 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.
2. 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](http://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 Schedule

Week	Topic	Reference
1	Course introduction and policies	Handouts
	The Process Technician Today	Chapter 1
2	Jobs in The Processing Industries John's Twelve Hour Shift	Chapter Chapter 3
3	Operator Safety Test #1	Chapter 4
4	Environmental Compliance & Title V Emergency Response Teams Process Physics	Chapter 5 Chapter 6 Chapter 7
5	Quality for Operators Process Economics for Operators Test #2	Chapter 8 Chapter 9
6	Communications for Operators Instrumentation Review for Operators	Chapter 10 Chapter 11
6	Routine Operator Duties Process Samples & Common Analytical Tests	Chapters 12 Chapter 13
7	Operator Maintenance Duties Test #3	Chapters 14
8	Material Handling I: Bulk Liquids Material handling II: Bulk Solids	Chapter 15 Chapter 16
9	Material Handling III: Oil Movement & Storage Process Unit Shutdown	Chapter 17 Chapter 18
10	Process Unit Turnaround Test #4	Chapters 19,
11	Process Unit Start-up Abnormal Situations	Chapter 20 Chapter 21
12	Process Troubleshooting Test #5	Chapter 22

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Course Syllabus

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13	Run Unit
14	Run Unit
15	Run Unit
16-17	Run Unit Final Exam

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