Process Technology II - Systems (PTAC 2420 1A1)

LAMAR INSTITUTE OF TECHNOLOGY

CREDIT
4 Semester Credit Hours (3 hours lecture, 3 hours lab)

MODE OF INSTRUCTION
Face to Face

PREREQUISITE/CO-REQUISITE:
PTAC 1302, PTAC 1410

COURSE DESCRIPTION
A study of various process systems including related scientific principles.

COURSE OBJECTIVES
Upon completion of this course, the student will be able to
1. Describe the purpose and function of common process systems.
2. Explain and demonstrate the operation of each process system.

INSTRUCTOR CONTACT INFORMATION

Instructor: Tiffany Williams-Parker

Email: tlparker@lit.edu

Office Phone: 409-257-0069

Office Location: TA5-108C

Office Hours: M-W 2-5PM / T-R 7:30-9:30PM / F 2-6PM

REQUIRED TEXTBOOK AND MATERIALS
1. Process Technology Systems by Michael Speegle
   a. ISBN number: 1418039993
2. Simtronics Students Workbook (Kampus Korner Bookstore only)

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.

DROP POLICY
If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an “F” in the course.

Approved: Initials/date

COURSE CALENDAR (Subject to Change)

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
1/31	Course introduction and policies. The Systems Concept.	Handouts, Ch 1.	
2/7	Overview of Industrial Water Treatment.	Ch 2.	
2/14	Fire Water, Wastewater & Storm Water Systems Potable Water, Process Water & Demineralized Water Systems.	Ch 3 and 4.	
2/21	Cooling Water Systems	Ch 5	
3/5	Plant Air, Instrument Air and Nitrogen Systems Natural Gas and Fuel Gas Systems.	Ch 6 and 7.	Test 1 Ch 2 - 5.
3/12	Steam Generation and Boiler Feedwater System Steam Distribution and Condensate System Electrical Power Generation and Distribution Systems.	Ch 8,9,10.	
3/19	Relief and Flare System Refrigeration Systems.	Ch 11 and 12.	Test 2 Ch 6 - 10.
3/26	Distillation Systems.	Ch 13.	
4/12	Combustion Systems, Extraction Systems.	Ch 14 and 15.	
4/12	Adsorption Systems Absorption and Stripping Systems.	Ch 16 and 17.	
4/19	Reactor Systems.	Ch 18.	Test 3 Ch 11 – 18.
4/26	Centrifuge Systems, Crystallization Systems.	Ch 19 and 20.	
4/26	Filtration Systems, Drying Systems.	Ch 21 and 22.	
5/2	Material Storage and Blending Systems.	Ch 23.	Test 4 Ch 19 – 23.
5/7	Review for final exam		

	Finish Simtronics, Student Workbooks.		
05/07	Final Exam Week		FINAL EXAM

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Homework/Quizzes 5%
- Participation/Lab 15%
- Unit Tests 40%
- Final Exam 40%

GRADE SCALE

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

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

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. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses

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.

ADDITIONAL COURSE POLICIES/INFORMATION

Schedule subject to change per Instructor or LIT campus issues.