Instrumentation 1 (PTAC 1332 1A1) CREDIT
3:2:3

MODE OF INSTRUCTION
Face to Face

PREREQUISITE/CO-REQUISITE:
None

COURSE DESCRIPTION
Study of the instruments and control systems used in the process industry including terminology, process variables, symbology, control loops, and basic troubleshooting.

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

- Explain the function of the various instruments used in the process industry;
- Diagram the process control elements in a control loop;
- Utilize terms and symbols in instrumentation;
- Interpret process flow diagram and piping and instrumentation drawing

INSTRUCTOR CONTACT INFORMATION

Instructor:	James Robinson
Email:	Jrobinson2@lit.edu
Office Phone:	409-247-5376
Office Location:	PATC 205
Office Hours:	Tuesday/ Thursday 12:00-1:30 pm

REQUIRED TEXTBOOK AND MATERIALS
Process Instrumentation, 2nd Edition; Pearson 2020 ISBN: 978-0-13-521392-6

ATTENDANCE POLICY

1. According to campus policy, students must be in attendance for 80% of class days. Following is the policy for absences in all summer (5 week) process technology classes and labs.
   Miss 1 classes or less receive calculated grade
   Miss 2 classes 10 points dropped from calculated grade Miss 3 classes 20 points dropped from calculated grade
   Miss 4 classes 30 points dropped from calculated grade
   Miss 5 or more classes student receives an 'F'

Approved: Initials/date

2. A student is absent if they are not physically in the class room. An excused absence simply means that the student can make-up any missed work.
3. Three student tardies will be considered one absence. A student is considered to be tardy once the instructor has completed taking roll.
4. Class attendance and participation is an individual student responsibility. Students taking traditional face-to-face courses are expected to attend class and to complete all assignments by stated due dates.

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.

COURSE CALENDAR

Summer PTAC 1332 Class SCHEDULE

Date	Chapter	Assignment
Week 1	Class syllabus & expectations; Chapter 1: Introduction Chapter 2: Process Variables, Elements &Instruments- Pressure	Pressure &Conversion WS
Week 2	Chapter 3: Process Variables, Elements & Instruments- Temp **Test #1: Chapters 1-3** Chapter 4: Process Variables, Elements & Instruments-Level Chapter 5: Process Variables, Elements & Instruments- Flow Chapter 6: Process Variables, Elements & Instruments- Analytic	Head P WS
	Test #2: Chapters 4-6	
Week 3	Chapter 7: Process Diagrams & Symbols Chapter 8: Switches, Relays and Alarms Chapter 9: Signal Transmission & Conversion **Test #3: Chapter 7-9**	loop element ws Scaling WS
Week 4	Chapter 10: Introduction to Control Loops - Simple Loop Theory Chapter 11: Primary Sensor, Transmitters & Transducers Chapter 12: Controllers & Final Control Element Overview Chapter 13: Control Valves & Regulators	
	Test #4: Chapters 10-13	
Week 5	Chapter 14: Controllers Chapter 21: ESD, Interlocks & Protective Devices **Test #5: Chapters 14, 21**	
Week 6	**Lab Final Exam (Everyone)** **Lecture Final Exam (Optional)**	

Calendar subject to change due to unforeseen circumstances.

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Attendance/HW	5%
Lab	15%
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-minimumcomputerrequirements. 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.

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

Monday Tuesday Wednesday Thursday schedule	
Summer 2025 PTAC 1332 CLASS SCHEDULE	
Date	Chapter
6/2/2025	Class syllabus & expectations; Chapter 1: Introdu
6/3/2025	Chapter 2: Process Variables, Elements & Instrur
6/4/2025	Chapter 3: Process Variables, Elements & Instrur
6/5/2025	Test #1: Chapters 1-3
6/9/2025	Chapter 4: Process Variables, Elements & Instrur
6/10/2025	Chapter 5: Process Variables, Elements & Instrur
6/11/2025	Chapter 6: Process Variables, Elements & Instrur
6/12/2025	Test #2: Chapters 4-6
6/16/2025	Chapter 7: Process Diagrams & Symbols
6/17/2025	Chapter 8: Switches, Relays and Alarms
6/18/2025	Chapter 9: Signal Transmission & Conversion

6/19/2025	Test #3: Chapter 7-9
6/23/2025	Chapter 10: Introduction to Control Loops - Simp
6/24/2025	Chapter 11: Primary Sensor, Transmitters & Tra
6/25/2025	Chapter 12: Controllers & Final Control Element
6/26/2025	Chapter 13: Control Valves & Regulators
6/26/2025	Test #4: Chapters 10-13
6/30/2025	Chapter 14: Controllers
7/1/2025	Chapter 15: Control Schemes
7/2/2025	Chapter 16: Advanced Control Schemes
7/3/2025	Chapter 21: ESD, Interlocks & Protective Devices
7/3/2025	Test #5: Chapters 14-16, 21
	Review P&ID
7/4/2025	HOLIDAY
7/7/2025	Review P&ID
7/7/2025	Lab Final Exam: Everyone
7/8/2025	Lecture Final Exam: Optional