

Instrumentation Drafting 202490.DFTG2308.1A1

CREDIT

3 Semester Credit Hours (2 hours lecture, 4 hours lab)

MODE OF INSTRUCTION

Hybrid

PREREQUISITE/CO-REQUISITE:

DFTG 1309 or DFTG 1313

COURSE DESCRIPTION

Principals of instrumentation as applicable to industrial applications; fundamentals of measurement and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout and drafting practices.

COURSE OBJECTIVES

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

1. Identify and draw ISA symbols
2. Draw basic flow sheet layouts.
3. Identify principles of PFD and P&ID development
4. Identify flow sheets, plot plans and piping interrelationship.
5. Draw P&IDs, instrument loop diagrams and details.

INSTRUCTOR CONTACT INFORMATION

Instructor: Stanley Spooner

Email: saspooner@lit.edu

Office Phone: 409-247-5214

Office Location: Building T5 Room 109

Office Hours: Wednesdays and Fridays 11:00am – 12:00pm



**LAMAR INSTITUTE
OF TECHNOLOGY**

REQUIRED TEXTBOOK AND MATERIALS

1. Instrumentation and Control System Documentation, ISA Publisher
Authors: Frederick Meier and Clifford Meier 2nd Edition , ISBN-13: 978-193600751
2. Flash Drive – 1 GB minimum
3. Notebook
4. Access to computer with AutoCAD

ATTENDANCE POLICY - Attendance is expected of all students.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the [Academic Calendar](#). If you stop coming to class and fail to drop the course, you will earn an “F” in the course.

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16-week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

COURSE CALENDAR

DUE DATE	ASSIGNMENTS
9/16/24	Textbook Introduction and Chapter 1 Homework (Intro to Instrumentation)
9/16/24	V-1 Process Flow Diagram
9/23/24	V-1 P&I Diagrams and Instrument Location Plan
9/30/24	V-1 Instrument Loop Diagrams FC-100, FC-101 and PC-200
10/7/24	Figure 1-1: Process Flow Diagram (textbook)
10/7/24	LIT Inside Process Training Unit (PFD) Process Flow Diagram
10/14/24	Chapter 2 Homework (P&IDs and Symbols)
10/14/24	Figure 2-21 P&ID 01-D-001 Vessel (textbook)
10/21/24	LIT Inside Process Training Unit – Instrument Location Plan
10/21/24	Chapter 6 Homework (Binary Logic Systems)
10/28/24	LIT Inside Process Training Unit – Instrument Cable Tray Plan
10/28/24	Figure 7-6: Loop Diagram P-100 (textbook)
11/4/24	Figure 7-8: Loop Diagram F-301 (2 nd) (textbook)
11/4/24	Chapter 7 Homework (Loop Diagrams)
11/11/24	Instrumentation Junction Box Wiring
11/18/24	Figure 8-2: Detail Flow Transmitter (textbook)
11/25/24	Figure 8-3: Detail Type 3 – Conduit (textbook)
11/25/24	Chapter 8 Homework (Installation Details and Location Plans)

12/2/24	LIT Inside Process Training Unit - P&ID (FINAL DWG) and Notebooks Due
---------	---

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Activity	Percentage
Drawings	60%
Quiz	10%
Homework	10%
Notebook	5%
Final Drawing	15%
Total	100%

NOTE - 25 point deduction for late submitted assignments

GRADE SCALE

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

LIT does not use +/- grading scales

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at <http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty>.

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