

**MIDLAND COLLEGE  
SYLLABUS  
INMT 1317  
INDUSTRIAL AUTOMATION  
2-2**

X

**Course Description:**

Applications of industrial automation systems including identification of system requirements, equipment integration, motors, controllers, and sensors. Coverage of set-up, maintenance, and testing of the automated system. Explain industry's progression toward automation; employ control methods and procedures; operate motors and motor controls for automation; select appropriate sensors; and incorporate proper set-up, maintenance, and testing for automation.

Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attended and dropped from the course.

**Text, References and Supplies:**

**Programmable Logic Controllers**, Frank Petruzella McGraw-Hill/Irwin, 5e, 2017.  
ISBN-978-0-07-337384-3.

**Learning Objectives:**

1. Identify methods of electromechanical control and classify as open or closed loop.
2. Discuss elements of automating a process, control factors, dependent operations, and unknowns.
3. Explore common instrument signal types and parameters.
4. Apply programmable logic controllers to multiple process scenarios.
5. Investigate trends in data acquisition currently used in industry.
6. Identify methods used to integrate automated devices into a system.

**Students may perform the following tasks in order to maintain safe lab and classroom spaces:**

- Participate in shop and classroom maintenance which may include, but not limited to sweeping, mopping, disposing of trash, cleaning work benches, organize tools and equipment, organize tool room, disinfect classroom tables and chairs.
- Disassemble discontinued lab training vehicles or equipment for salvage.
- Repurpose lab vehicles to be utilized in lab assignments.
- Other course related tasks as assigned by instructor.

**Course Policies:**

Each student is expected to act in a safe manner. The presence of exposed mechanical and electrical hazards makes unsafe acts inexcusable.

I expect that any student would never knowingly violate the College's policy on academic honesty. Please assume that all assignments require only individual efforts unless the instructor specifically requests team or group collaboration.

Make-up work is allowed only if pre-approved, or the student circumstances are deemed an emergency, by the instructor. Points for participating in class discussions and group exercises cannot be made-up.

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**Drop Policy:**

**It is the student's responsibility to drop this course if circumstances develop that prevents his/her completion of the course. Instructors no longer have the prerogative of awarding the letter grade of "W".**

**Evaluation of Students:**

Participation	35%
Quizzes	25%
Lab	15%
Final Exam	<u>25%</u>
Total	100%

90 and above	A
80-89	B
70-79	C
60-69	D
59 and below	F

**Course Schedule:** This class meets for 2 lecture hours and 2 lab hours.

**SCANS Information:** SCANS skills are taught and/or reinforced in energy/petroleum courses. The student must locate, read, interpret and understand instruction information and direction materials. The participant must communicate thoughts, ideas and information through verbal and written mediums. Practical arithmetic and mathematics will apply continually throughout energy/petroleum training. Listening, interpreting, and responding to verbal communications and instructions as well as speaking in response to questioning will be a daily involvement. Thinking, reasoning, visualizing and problem solving are required assets to the energy/petroleum field. The student/participant must display responsibility, self-management and honesty.

**Administrative Information:**

Curt Pervier, Dean of Applied Technology

Lisa Hays, Division Secretary  
Applied Technology  
Office: Rm 143 TC  
Phone: (432) 685-4676  
Fax: (432) 685-6472

Students should feel free to contact the instructor at any time. Appointments are encouraged for advising and planning the most appropriate or beneficial course work.

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\*Syllabus subject to change as deemed necessary by the instructor to ensure learning objectives and course goals are met.

**Non-Discrimination Statement**

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individual has been designated to handle inquiries regarding the non-discrimination policies:

**Tana Baker**

Title IX Coordinator/Compliance Officer

3600 N. Garfield, SSC 131

Midland, Texas 79705

(432) 685-4781

[tbaker@midland.edu](mailto:tbaker@midland.edu)

For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

**Americans with Disabilities Act (ADA) Statement:**

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit [www.midland.edu/accommodation](http://www.midland.edu/accommodation) and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a "Notice of Accommodations" letter will be sent to instructors outlining any reasonable accommodations.