**MIDLAND COLLEGE**
**SYLLABUS**
**INTC 2336**
**DISTRIBUTED CONTROL AND PROGRAMMABLE LOGIC**
**2-2**

**Course Description:**
An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process control environment. Student will configure programmable logics controllers (PLC's) to perform various tasks; explain how programmable logic controllers control the process environment; operate and troubleshoot digital systems. The laboratory exercises required are part of this course.

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.

*Prerequisite:* INMT 1317 Automation or instructor permission.

**Text, References and Supplies**

**Programmable Logic Controllers**, Frank Petruzella McGraw-Hill/Irwin, 4e, 2011.
ISBN-13: 978-0-07-351088-2.

**Learning Objectives:**

1. Identify methods of electromechanical control and classify as open or closed loop.
2. Understand Micro controller logic and slot addressing schemes.
3. Learn math functions as well compare functions.
4. Use exercises using Jumps, Subroutines, and Sequencers.

**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 | | | 25% |
| | | 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 3 lecture 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.

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**Administrative Information:**

Pete Avalos, Dean of Applied Technology

Division Office:
Main Campus/MHAB # 176
Phone: (432) 685-4676

Erick Gutierrez, Department Chair/Professor
ATC Office #128
(432) 686-4917
egutierrez@midland.edu

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.

**Americans with Disabilities Act (ADA)**
Any student who, because of a disabling condition, may require some special arrangements to meet course requirements should contact disabilities support services as soon as possible at: Accommodation Services. Conditions may include documented physical or educational disabilities. Please be aware that services or accommodations are not automatic. Each student must request them and secure the proper authorizations/documentation. Accessibility Links can be found on the Pages tab in Canvas.

**Midland College Non-Discriminatory Statement:**
Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. For information and inquiries regarding Midland College's non-discrimination policies, go to: Title IX For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

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