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:

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.

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.

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:

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Participation</td>
<td>35%</td>
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<tr>
<td>Quizzes</td>
<td>25%</td>
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<tr>
<td>Lab</td>
<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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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.

Administrative Information: Curt Pervier, Division Chair Technical Studies

Lisa Hays, Division Secretary
Technical Studies
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.

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

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must place documentation on file with the Counselor/Disability Specialist. Students with disabilities should notify Midland College prior to the beginning of each semester. Student Services will provide each student with a letter outlining any reasonable accommodations. The student must present the letter to the instructor at the beginning of the semester.

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individuals have been designated to handle inquiries regarding the non-discrimination policies: Tana Baker, Title IX Coordinator/Compliance Officer, 3600 N. Garfield, SSC 242, Midland, TX 79705, (432) 685-4781, tbaker@midland.edu; Natasha Morgan, Director Human Resources/Payroll, 3600 N. Garfield, PAD 104, Midland, TX 79705, (432) 685-4534, nmorgan@midland.edu. For further information on notice of non-discrimination, visit http://wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm or call 1 (800) 421-3481.

Spanish

Midland College no discrimina por motivos de raza, color, nacionalidad, sexo, discapacidad, o edad en sus programas o actividades. Las siguientes personas han sido designadas para responder a cualquier pregunta o duda sobre estas políticas no discriminatorias: Tana Baker, Title IX Coordinator/Compliance Officer, 3600 N. Garfield, SSC 242, Midland, TX 79705, (432) 685-4781, tbaker@midland.edu; Natasha Morgan, Director Human Resources/Payroll, 3600 N. Garfield, PAD 104, Midland, TX 79705, (432) 685-4534, nmorgan@midland.edu. Para más información sobre estas políticas no discriminatorias, visite http://wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm o llame al 1 (800) 421-3481.