Course Description: An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance tests. The student will use knowledge gained from previous classes or industry experience in order to improve their skill in determining system problems. Prerequisites: HART 1441 and HART 1442 or consent of instructor.

The student will test and diagnose components, systems, and accessories; and exhibit knowledge of system’s sequence of operation, accessory applications, and component operation.


Course Goals/Objectives: The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives. (Addendum A.)

1. Display work habits
2. Use safe work habits
3. Use tables and charts to help troubleshoot equipment
4. Review the use of all test meters for troubleshooting purposes
5. Develop a logic process to follow when troubleshooting
   6. Recognize symptoms of a low charge
   7. Recognize symptoms of an overcharge
   8. Recognize symptoms of a plugged metering device
   9. Recognize symptoms of a flooded evaporator
10. Recognize symptoms of a bad run capacitor
11. Recognize symptoms of a bad start capacitor
12. Recognize symptoms of a bad compressor
13. Recognize symptoms of a proper charge
Student Contributions and Class Policies:

Each student will spend at least 4 hours per week preparing for class. As a student in this course you are expected to display respect, professional behavior and cooperative attitude at all times. Punctual attendance is critical in this class due to the extent of the material. The college attendance policy will be strictly adhered to. The student is expected to be prepared to work and to participate in all class activities.

Evaluation of Students:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab</td>
<td>30%</td>
</tr>
<tr>
<td>Quizzes and Homework</td>
<td>25%</td>
</tr>
<tr>
<td>Attitude and Attendance</td>
<td>20%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>25%</td>
</tr>
</tbody>
</table>

Course Schedule:

The class meets for 6 lecture hours and 4 lab hours per week for 8 weeks.

SCANS Information:

**INFORMATION:**
Acquires, evaluates, interprets and communicates information. Uses computers to acquire and communicate information.

**SYSTEMS:**
Suggests modifications to existing systems and develops new or alternative systems to improve performance. Knows how technological systems work and operates effectively with them.

**TECHNOLOGY:**
Chooses procedures, tools or equipment including computers and related technologies. Prevents, identifies, or solves problems with equipment.
**Instructor Information:**
Jaroy Roberts, Instructor  
Room 187 TC  
(432) 685-4687 Office  
(432) 349-5913 Cell  
E-Mail: jroberts@midland.edu  

Office Hours: Will be posted  

Curt Pervier, Applied Technology Dean  
Lisa Tanner, Applied Technology Secretary  
Room 143A TC  
(432) 685-4676  
Fax: (432)685-6472

Students are encouraged to contact the instructor at any time; however, making an appointment will guarantee the instructor’s availability at a specific time.

**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.

*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 course.

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://wdcrobcollp01.ed.gov/CFAPPS/OCR/contactus.cfm](http://wdcrobcollp01.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://wdcrobcollp01.ed.gov/CFAPPS/OCR/contactus.cfm](http://wdcrobcollp01.ed.gov/CFAPPS/OCR/contactus.cfm) o llame al 1 (800) 421-3481.