Course Description: This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced.

Prerequisite: ITCC 1404 - Cisco 2

Text and Supplies: CISCO Online Curriculum: netacad.com

Student Learning Outcomes:

Upon successful completion of the course, students will have the ability to accomplish the following competencies accurately and efficiently:

The student will learn about the benefits of using switches and routers to design and build networks.

The student will learn how switches operate, how information is forwarded from switch to switch and switch to router and how to configure switches to work efficiently in a network.

Introduce the student to the concept of redundancy and their importance in maintaining networks. Student will also learn about the Spanning Tree Protocol (STP) and RSTP.

Introduce the student to virtual local-area networks (VLANS) and how the use of these networks can enhance business productivity.

Introduce the student to the VLAN Trunking Protocol and how this protocol aids in the management of VLANS.

Deploy wired and wireless configurations.

Implementation of a network using switching and routing from Cisco’s LAN/WAN best practices.

Implementation of single-area and multi-area OSPF routing protocol.

Implementation of EIGRP routing protocol.
**Student Contribution:** Students are encouraged to contact the instructor at any time. If you need to meet with the instructor, you will need to make an appointment to guarantee the instructor's availability at a specific time. Office hours will be posted in CANVAS.

Students will be expected to exhibit professional behavior in class. With regard to cell phone use, keep it on silence and do not take calls unless it is an emergency.

Students are expected to attend class, for online that means logging in and completing assignments.

**Late Work:** Assignments will be due on the date assigned. In the event an assignment must be submitted later than the scheduled due date the student must get instructor permission.

This is an online/hybrid class. You will be expected to keep up with the assignments posted in CANVAS. You must email the professor once a week with your progress.

**Policy Information:**

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.

This will be an in-depth, fast-paced course. It is important that you complete the assignments before the due dates. Late work will not be accepted. There will be no exceptions to this policy.

*Should you find that you are unable to complete the course, it is necessary for you to contact the Office of Student Services at Midland College and officially drop the class; otherwise a grade of “F” will be given for the semester grade.*

**Class Policy:**

It is each student’s responsibility to become familiar with Midland College policies as explained in the Midland College Student Handbook. Cheating, plagiarism, and any other form of academic dishonesty will not be tolerated.

**Course Schedule:** Posted in CANVAS
Grading/Evaluation of student:

Grading Formula:

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% - 100%</td>
<td>A</td>
</tr>
<tr>
<td>80% - 89%</td>
<td>B</td>
</tr>
<tr>
<td>70% - 79%</td>
<td>C</td>
</tr>
<tr>
<td>60% - 69%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
</tr>
</tbody>
</table>

Your final grade will be calculated as follows:

- Lab exercises: 45%
- Final Exam: 20%
- Chapter Exams: 35%

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.

Instructor Information: Posted in CANVAS

Applied Technology Division

Contact Information
- Division Dean: Curt Pervier
- Department Chair: Heather Sanders
- Division Secretary: Lisa Hays
- Division Office: Room TC 143A
- Division Telephone: (432)685-4676
- Division Fax: (432)685-4672

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://wdcrbcolp01.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://wdcrbcolp01.ed.gov/CFAPPS/OCR/contactus.cfm o llame al 1 (800) 421-3481.