### Semesters:
- Fall 2014

### Instructor:
- Gerald Miller

### Phone:
- (540) 891-3038

### Class Info:
- ITN156-F01 (51719)

### Location/Room:
- FAC2 Room 232

### Class Name:
- Basic Switching and Routing - Cisco

### Class Days/Times:
- Thursday, 6:00PM-9:45PM. This course is a special 8 week course that combines in-class learning and out of class instruction. Students must have access to and be familiar with Blackboard

### Office Hours:
- Tues/Thurs: 12PM(noon) to 3:15PM; Wed 2PM to 5:45PM
- Other times by appointment.

### Class Credits:
- 4

### Email:
- gmiller@germanna.edu

### GCC E-mail Policy:
- Students, faculty, and staff of Germanna Community College must use GCC email for all official college communications. This includes course-related communications between students and faculty. If you need help accessing your student email account please visit the ACC on either campus.

### Course Description:
- Centers instruction in LAN segmentation using bridges, routers, and switches. Includes fast Ethernet, access lists, routing protocols, spanning tree protocol, virtual LANS and network management. Lecture 3-4 hours per week.

### Textbook and Supplies:
- **ITN156:**

### Reference Materials:

### Learning Outcomes:
- Describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of the course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students
will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network.

**Additional Learning Outcomes:**
This course is an excellent vehicle for student preparation for Cisco CCNA certification.

That being said, the student must recognize the need to read and study the assigned material. Attending classroom lectures is meant to supplement student reading and study. The Packet Tracer activities embedded within the tutorials are critical to understanding and retention on technical materials.

Additionally, chapter exams should not be postponed, but rather should be taken at the completion of each chapter. The exams are structured to reveal areas where the student needs additional study. Delaying the chapter tests will put the student out-of-sync with on-going instruction.

Most Saturdays a volunteer "open" lab will be conducted in FAC2 Room 232. These labs provide for additional instruction and hands-on configuration of real equipment. This opportunity is invaluable to providing the student reinforcement activities of classroom instruction.

**Additional Course Information:**

**Course Content.**
Configure and troubleshoot DHCP and DNS operations for both IPv4 and IPv6.
Describe the operations and benefits of the Spanning Tree Protocol (STP).
Configure and troubleshoot STP.
Describe the operations of link aggregation and Cisco VLAN Trunk Protocol (VTP).
Configure and troubleshoot basic operations in a complex routed network for IPv4 and IPv6,
Configure and troubleshoot advanced operations of routers and implement RIP, OSPF,
and EIGRP routing protocols for IPv4 and IPv6.
Manage Cisco IOS Software licensing and configuration files.

**Important Dates:**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tr>
<td>Classes Begin</td>
<td>Aug 20</td>
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<td>Last Day to Add</td>
<td>Aug 25</td>
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<tr>
<td>Labor Day (College Closed)</td>
<td>Sept 1</td>
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<tr>
<td>Last Day to Drop with Refund</td>
<td>Aug 28</td>
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<tr>
<td>College Learning Day (No Classes)</td>
<td>Sept 23</td>
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<tr>
<td>Last Day to Withdraw Without Academic Penalty</td>
<td>Sept 24</td>
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<tr>
<td>Classes End</td>
<td>Oct 16</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>During last scheduled class</td>
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</table>
**Attendance Policy:**
Class attendance is an integral part of a sound academic program for most classes at Germanna. However, alternate teaching techniques, which may not require class attendance, may also be a part of a sound academic program. Class attendance requirements are found in the course outline, which the instructor provides to students in each course. Germanna students are expected to be present and on time at all regularly scheduled classes and laboratory meetings. When a faculty member determines that a student has not met the class attendance requirements in the course outline, which will usually conform to the statement at the end of this Standard, the faculty member may submit a Drop/Add Form, showing the last date of attendance by the student, to the Admissions and Records Office. A grade of "W" will be recorded for all withdrawals, whether initiated by the student or by the faculty member through the published "Last day to withdraw without academic penalty." Students withdrawn after the withdrawal deadline will receive a grade of "F" except under mitigating circumstances, which must be documented by the student and approved by the Dean of Instruction. Please see "Withdrawing from a course" under "Registration Information" in the Academic Information section of the Germanna course catalog for additional policy information. For 8 week, short session classes, the below permitted absences are cut in half. For short session courses other than 8 week, please see your instructor for the permitted absences.

The official GCC withdrawal policy follows: Withdrawal from a course without academic penalty may be made within the first 60% of the course. The student will receive a grade of "W" for withdrawal. After that time, the student will receive a grade of "F". Exceptions to this policy may be considered under mitigating circumstances which must be documented and submitted to the appropriate Dean of Instruction for review and consideration. Please see "Important Dates" above for the last day to withdraw. (For the drop date for Short Session courses, see the link listed in "Important Dates for Short Session Courses" and use that information if applicable.)

If class meeting times Absences during the week are: permitted are:
1 1
2 2

**Course Plan for College Closing**
ITN156 is normally presented in a lecture/lab format at Germanna’s Fredericksburg campus. In the event that classroom facilities are not available for whatever reason, students are to continue their studies using the Cisco tutorials provided at either the official Cisco Web site or Germanna’s Cisco Web site which serves as a backup to the official Cisco site. Special instructions, as necessary, will be posted on the ITN156 Blackboard’s Web Page. Later paragraphs in this syllabus provide the study schedule to be followed regardless of the facilities available. In the event that all the aforementioned facilities are unavailable students should contact the instructor at his home phone number for further instructions.

**Electronics (e.g. Cell Phones) Food Classroom Policy**
Food and drink are not permitted in FAC classrooms.

**Classroom Demeanor (See Internet Demeanor for distance learning classes):**
Modern technology provides many wonderful capabilities, but improperly used – wrong time and place – can be very disruptive to many. Therefore, during class the use of cell phones and iPods or
other similar devices is not permitted. If cell phone communications is necessary because of extenuating personal circumstances, cell phone communications make take place outside of the classroom. In a like manner, surfing the Internet during class, unless otherwise directed by the instructor as part of the class lesson, is not permitted. Violations of these classroom policies will result in a loss of 25 points (for each incident) from the student’s total point score. Continued disregard for these classroom policies may result in administrative dismissal from the class.

**Internet Demeanor:**

The Internet is a wonderful technological capability that requires users to exercise good judgment and the use of acceptable Internet etiquette. Students should review college-wide policies pertaining to the use of Germanna computers as well as the VCCS. Those policies are found at the following Internet URL: http://www.germanna.edu/policies/CollegeWide/#info%20tech.

**Grading Policy:**

There are 8 modules (chapters) included in the ITN156 course curriculum. Each module will conclude with a 20-25 multiple choice question exam. A final written exam consisting of approximately 50 multiple choice questions will be administered at the conclusion of the course. Module and final testing will be timed (modules – 1 hour; final- 3 hours) and conducted over the Internet. A hands-on skills test (design, configuration, and connectivity verification of a simple network) conducted in Germanna’s Cisco Lab will complete the course of study. Three hours will be allocated for the skills portion of the testing. Grading scores will follow Germanna’s standard grading scheme. Those scoring at or above the 80\(^{th}\) percentile will also receive Cisco Exploration Level 3 certification documentation.

**Academic Honesty:**

The faculty of Germanna Community College recognizes that academic honesty is an integral factor in developing and sharing knowledge. We support the concept of academic honesty, practice academic honesty in our classes, and require academic honesty from our students. GCC students are expected to maintain complete honesty and integrity in the completion and presentation of all academic assignments and examinations. Any student found guilty of cheating, plagiarism, or other dishonorable acts in academic work is subject to disciplinary action.

Academic dishonesty is cheating and stealing. Academic dishonesty includes, but is not limited to:

- Using material verbatim from a source without giving credit.
- Rewriting material from a source without giving credit.
- Using information from an Internet source without giving credit.
- Submitting the work of another person as your own work.
- Using/copying another student's computer disk.
- Copying from another person's paper/test/homework.
- Allowing someone else to copy/use your work (paper, homework, quiz, test).
- Violating VCCS Computer Ethics Guidelines in the pursuit of academic studies.
**Disability Information:**

If you are a student with a disability and will need accommodations while enrolled in this course, please contact the Coordinator of Disability Services in the Counseling Center, (540-891-3019 at the Fredericksburg Area Campus or 540-423-9140 at the Locust Grove Campus).

**Student Academic Services:**

**Tutoring Services:**

Tutoring Services offers a variety of free academic support programs for Germanna students at both the Locust Grove and Fredericksburg Area campuses. Daniel Center students should contact the Locust Grove tutoring office regarding available services and Stafford Center students should contact the FAC Tutoring Services Office for available services. To schedule an individual tutoring appointment, call or visit the Locust Grove or Fredericksburg Tutoring Centers.

Online tutoring is available during daytime, evening and weekend hours. Registered students may access online tutoring by clicking on the Smarthinking link from the Tutoring Services’ website.

Supplementary academic materials are available free of charge from Tutoring Services, and they may also be downloaded from the Tutoring Services’ website: [http://www.germanna.edu/tutor/](http://www.germanna.edu/tutor/). Tutoring Services operates a daily walk-in Writing Lab and Math Lab as well as providing a variety of study skills and academic workshops. Students may register for the Test Taking/Test Anxiety Workshop, Grammar Workshop, APA/MLA Workshop, TI83/84 Calculator Workshop, Computer Competency Workshop, Note-taking, Spanish Discussion Group, Drug Calculation Workshop, and the Basic PC Skills Mini Course by visiting or calling our offices. Several of these workshops may also be viewed online from the “Online Tutoring Resources” section of the Tutoring Services’ website: [http://www.germanna.edu/tutor/resources.asp?menuchoice=Online%20Tutoring%20Resources](http://www.germanna.edu/tutor/resources.asp?menuchoice=Online%20Tutoring%20Resources)

**Academic Computing Center:**

The ACC provides computer access to students needing to work on class work, check e-mail, blackboard, etc. Students also can apply, register for classes or change classes, check grades, etc. using myGCC. Staff is available to assist students with various computer issues and services. Student can access the internet and MS Office Suite 2007, and placement testing is administered at LGC.

**Testing Services:**

Testing Services provide proctor services for make-up and distance learning tests. Test proctoring for various nursing exams, dental hygiene, exit exams and other college/university testing as well. To determine the hours of the Testing Center, go to the website [http://www.germanna.edu/acc/testing_center](http://www.germanna.edu/acc/testing_center).
### Tentative Course Schedule:

**Syllabus Subject To Change**

<table>
<thead>
<tr>
<th>Week (Thursday)</th>
<th>Reading Assignment</th>
<th>In-Chapter Packet Tracer Exercises</th>
<th>Saturday Labs ²</th>
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<tbody>
<tr>
<td><strong>First 8 Weeks – ITN 156</strong></td>
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<tr>
<td>1: 8/21</td>
<td>Chapter -- 1 Introduction to Scaling</td>
<td>1.2.1.7; 1.3.1.3</td>
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<td></td>
<td>Chapter 2 -- Networks LAN Redundancy</td>
<td>2.1.1.5; 2.3.1.5; 2.3.2.2</td>
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<td>2: 8/28</td>
<td>Chapter 3 -- LAN Aggregation</td>
<td>3.2.1.3; 3.2.2.3; 3.3.1.3</td>
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<td>3: 9/4</td>
<td>Chapter 4 -- Wireless LANs</td>
<td>4.4.2.2; 4.5.1.2</td>
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<td>4: 9/11</td>
<td>Chapter 5/6 -- Single and Multi-Area OSPF</td>
<td>5.1.2.12; 5.1.3.5; 5.1.5.7; 5.2.2.3; 5.3.1.2 6.2.3.6; 6.2.3.7</td>
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<td>5: 9/18</td>
<td>Chapter 7 -- EIGRP</td>
<td>7.2.2.4; 7.3.4.4; 7.4.3.4</td>
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1. The student CD, provided by the instructor, contains two files to assist the student in completing the Packet Tracer activities. Completed exercises will be turned-in for grading. Those files are:
   - Packet Tracer Source Files – a series of Word documents with questions to be completed and turned-in to the instructor.
   - Packet Tracer PKA Source Files – a series of Packet Tracer files with activity instructions to be implemented in completing the task at hand.

2. Voluntary Saturday labs will be conducted on alternate Saturdays for those students desiring a hands-on experience.

Course Exam Activation Procedures.

The exam will be activated at (date) and for the time indicated on the following table. Only one attempt will be allowed per test. During the last week of the course all chapter tests will be reopened for student review and additional study as necessary. Additionally, a practice final and practice skill-based assessment will be opened the week before the official exam week (6-12 May 2014).

<table>
<thead>
<tr>
<th>Chapter Examination Scheduling – ITN156 Basic Switching and Routing (TBD)</th>
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<td>Chapter</td>
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