CIS 245 Syllabus

CIS-245-101-13SP Network Administration

Course Syllabus

Last Updated 21 January, 2014

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About This Course
You’ve taken CIS 240 and have an understanding of networking theory, and the LabSim Network Pro labs that you did gave you some simulation experience. Now it’s time to roll up your sleeves and really dig into the nitty-gritty of networking. (If you haven’t taken CIS 240 yet, you can still do well in this course, but you will need to master both theory and practices of networking at the same time).

If that sounds good, then this is the course for you. For most of the course you’ll have the chance to work with server operating systems that you very well may encounter in your first job. You’ll be configuring the networking protocols for servers and testing your work using a Microsoft desktop operating system. You’ll learn how to use several software-based networking tools that are used industry-wide for monitoring and analyzing networks. And you’ll learn how to design addressing schemes for networks that provide for the needs of a company today and in future.

The official catalog course description reads as follows: “A study of local area network administration. Course work will provide a working knowledge of network technology and management with an emphasis on local area networks. It includes simulation of real-work experiences managing and monitoring networks. 3 credit hours. “

This is your opportunity to “get your hands dirty”, and the goal for the course is to prepare you to have a working knowledge of network technology with an emphasis on local area networks. By the time this course ends, you will be able to

1. Configure local area network protocols and services.
2. Monitor and analyze a local area network.
3. Configure network security features.
4. Store, retrieve, evaluate, and synthesize information using technology tools.

The Book We’ll Use

Windows Server 2003 Networking
by Byron Wright.
Publisher: Course Technology, 2003.

Things You Need To Know

When and Where

Location: Chesapeake College Wye Mills Campus Room T-121
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Lecture: Mon/Wed 11:30 AM - 12:20 PM
Lab: Mon/Wed 12:30 PM - 1:20 PM

Class will begin on time and end at the scheduled time. At my discretion, anyone arriving too late won't be admitted.

How to Contact Me

My Name: Raymond A. Diedrichs
Call me Ray or Mr. Diedrichs, whichever you are most comfortable with.

My Office: T-109 (but I'm almost always in T-121 during office hours)
My Phone: 410-822-5400 ext 2380 (leave a voicemail message)
My e-mail: rdiedrichs@chesapeake.edu
Always start your email subject with CIS-245 That lets me know that it is class-related.

My Office Hours:
Mon, Wed 11:30 AM to 12:30 PM
Tue, Thu 11:00 AM to 11:30 AM
Tue, Thu 1:30 PM to 2:30 PM
I am almost always in Tech-121 during office hours. Feel free stop by to discuss coursework, a concern you might have, or anything else that I could be able to help with.

If you have a question or comment about the course, an easy way to communicate with me is to use the Canvas messaging system called Conversations. Canvas Conversations resembles email, but a conversation remains within Canvas. Click on the inbox to a Conversations private message to me (a message can be sent to classmates as well). I'll check Conversations daily and should be able to provide an answer within 24 hours (except on weekends).

Of course you can also send an email to my Chesapeake College email address or talk to me face to face during office hours. If all else fails, you can leave a voicemail on my office phone, but I am very rarely in my office.

Teaching Methods I’ll Be Using

- Classroom lectures and demonstrations.
- Textbook-based assignments.
- Hands-on lab projects.
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What the Course Will Cover
See the Tentative Course Schedule section of this document.

How I’ll Grade Your Work
This course is graded using a points system. You earn points for work that you turn in when I post the grade for that work. Over the course of the semester, your grade will rise from 0 to some final value. You can earn a maximum of 1928 points (although this might change if I make adjustments during the semester).

Test Your Understanding Assignments [227 points]
- After reading each chapter (see the schedule for when the chapter will be covered), take the Canvas-based “test your understanding” (TYU) self-test to confirm that you mastered the material.
- You have until the end of the semester to complete all TYU assignments, but you would be wise to keep up with your reading throughout the course.
- TYU assignments not completed earn a grade of zero points.

Labs [655 points]
- Labs are due on dates indicated in Canvas. Under certain circumstances I will accept work that is submitted late, but I will impose a penalty. Read on for the details.
- The late lab work submission deadline for the first half of the semester is midnight the day before the midterm exam.
- The late lab work submission deadline for the second half of the semester is midnight the day before the final exam.
- Late lab work submitted 7 or fewer days late (and before the submission deadline) can earn (at my discretion) at most 75% of the original points.
- Late lab work submitted 8 or more days late (and before the submission deadline) can earn (at my discretion) at most 50% of the original points.
- Lab work not submitted or submitted after the late work submission deadline receives a grade of zero.

Exams [820 points]
- See Tentative Course Schedule section for planned exam dates.
- You won’t be able to access books, notes, or electronic devices when taking tests.
- You’ll take all tests in class using Canvas.
- You must be present at the scheduled start of a test so that you can hear any instructions I need to give; at my discretion, a tardy student will not be permitted to take the test and will earn a test grade of zero.
There won’t be any makeup exams for this course, so if you can't take a test at the scheduled time and day, you must inform me beforehand by email or telephone, and we will arrange for you to take the test in the Testing Center.

If you don't take a scheduled test at the scheduled time, then you will earn a test grade of zero.

**Professionalism [216 points]**

You earn up to 7 points per class for demonstrating your professionalism as a college student by:

- Attending class and showing up on time.
- Explaining by email or phone message when an absence is unavoidable.
- Reading and studying new material to be covered in class before the class meets.
- Fully participating in class discussions, group work, and other activities.
- Taking responsibility for announcements and material for every class.
- Following instructions.
- Asking me for help in a timely manner.
- Turning in assignments on time.

I will post your earned professionalism points monthly.

It is a simple fact that success in this class depends upon your regular attendance; it is in your best interest to attend every class. If you must miss a class, you are still responsible for the completion of all assigned work.

The best thing to do if you cannot come to class is to notify me of your absence by Canvas “conversation” (i.e., course email) or regular email (rdiedrichs@chesapeake.edu). Always start your email subject line with CIS-245, as that lets me know that it is class-related. If you can’t contact me by email, then you notify me at 410-822-5400 ext 2380 by leaving a message.

If I decide that you have behaved in an unprofessional manner in class, I will ask you to leave. You will then need to meet with me during office hours to discuss what needs to change in order for you to resume attending class.

**How I Will Determine Your Letter Grade**

Your letter final grade for the course will be determined as follows:

- A = 90% to 100%
- B = 80% to 89%
- C = 70% to 79%
- D = 60% to 69%
- F = 0% to 59%
These grades are based on rounding using the “5 or higher” rounding rule. For example, a grade of 74.5 is rounded up to 75, but a grade of 74.4 is rounded down to 74.

**Your Workload**
I expect you to do a minimum of two hours of work outside of class for every hour of lecture in class. Put another way, much of the real learning takes place on your own outside of class, so be sure that you put in the time that this learning takes.

**Other Materials You Will Need**
You’ll find a USB-based portable hard drive useful if you want to work on virtual machine-based assignments out of class.

**The Fine Print**

**Academic Dishonesty**

Plagiarism and cheating are serious offenses and may be punished by failure on exam, paper or project; failure in the course; and/or expulsion from the College. Be guided by the Student Honor Code:

*Students of Chesapeake College agree to demonstrate academic and personal integrity.*

- Chesapeake College students are persons of integrity: they stand for that which is right. They tell the truth and ensure that the full necessary truth is known. They do not lie.*
- They embrace fairness in all actions. They ensure that work submitted as their own is their own, and that assistance received from any source is authorized and properly documented. They do not cheat.*
- They respect the material and intellectual property of others and ensure that others are able to benefit from the use of their own property. They do not steal.*

Therefore, each student at Chesapeake College pledges to:

- Submit assignments that reflect his/her own thoughts and work.
- Cite and properly acknowledge the thoughts and work of others.
- Complete all test and other in class assignments using his/her own thoughts.
- Reject the use of materials acquired illegally.
- Respect the rights and property of others.

Those found to be in violation of this code agree to disciplinary sanctions and appeal processes outlined within the Chesapeake College Student Code of Conduct.

(* Adapted from the U.S. Naval Academy Code of Honor)

**Doing College-Level Work**

- This is a college-level class, and your work should always be your best effort.
- When preparing assignments, merely quoting what is written in your textbook is not sufficient to earn full points. Instead, restate information in your own words.
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- Avoid spelling and grammar errors.
- Proof-read what you write before you turn it in to ensure that it says what you mean to say. Remember, clear writing is a sign of clear thinking: if you understand something, then you can write about it with clarity.
- Don’t neglect to use the Academic Support Center (L105, Learning Resource Center) if you feel that you need assistance with your study habits and writing.
- Also remember that struggling with the material is a sign that learning is taking place. Working through the struggle is the means by which you learn, so don’t avoid it -- welcome it.
- We all will also conduct ourselves with civility, courtesy, and respect in the classroom.

Use of Computers and Cell Phones

- It is unprofessional to use the computer for any purpose while I am lecturing unless I invite you to do so.
- You should turn off your cell phone and put it out of sight before entering the classroom. It is unprofessional to use a cell phone for voice or text while I am lecturing.
- If you are expecting a call that cannot wait until after class, please put your phone on vibrate and step outside the classroom to answer it.

Need for Assistance

- If you find that working through course materials on your own isn’t leading to mastery of the material, you can get assistance on networking topics from me during office hours and tutoring on student skills (study habits, note taking, etc.) from the Academic Support Center.
- If you have a physical or learning disability that will make it difficult for you to do the course work or that will require academic accommodations to be provided, please see Judy Gordon (410-827-5805, jgordon@chesapeake.edu) as soon as possible.
- If you are a first generation college-attendee or come from a low income family, consider contacting Academic Support Services (L105, Learning Resource Center). They may be able to give you additional assistance and access to additional technology.

Academic Instruction Emergency Management Plan

In the event that Chesapeake College needs to close for an extended period of time due to a flu pandemic, severe weather event, or other emergency situation, consideration will be given to the timing and duration of the closure as follows:

Closure during the semester for up to one week – there will be an opportunity to make up work missed without significant alteration to the semester calendar.

Closure extending beyond one week (or in situations where classes are cancelled on the same days/evenings over multiple weeks) – the College may extend the length of the semester. Depending on the timing of the closure, scheduled breaks, end of semester dates, and/or the processing of final grades might be impacted.

Students can acquire information about closures on the College website or by calling 410-822-5400 or 410-228-4360. Chesapeake College courses held at off campus sites will follow the protocol of the host facility.
The Week By Week Plan

This plan may need to change as the semester progresses, but I'll inform you if it does.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>21-Jan</td>
<td>Ch. 1 Windows Server 2003 Networking Overview</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Introduction To VMware Player and WireShark</td>
</tr>
<tr>
<td>W2</td>
<td>28-Jan</td>
<td>Ch. 2 Networking Protocols</td>
</tr>
<tr>
<td>W3</td>
<td>4-Feb</td>
<td>Ch. 3 TCP/IP Architecture</td>
</tr>
<tr>
<td>W4</td>
<td>11-Feb</td>
<td>Ch 4 Subnetting</td>
</tr>
<tr>
<td>W5</td>
<td>18-Feb</td>
<td>Ch. 4 Subnetting (continued)</td>
</tr>
<tr>
<td>W6</td>
<td>25-Feb</td>
<td>Ch. 4 Subnetting (continued)</td>
</tr>
<tr>
<td></td>
<td>27-Feb</td>
<td>Ch. 5 Dynamic Host Configuration Protocol</td>
</tr>
<tr>
<td>W7</td>
<td>4-Mar</td>
<td>C.h 5 Dynamic Host Configuration Protocol (continued)</td>
</tr>
<tr>
<td>W8</td>
<td>11-Mar</td>
<td>Ch. 6 Domain Name System/Ch. 7 WINS</td>
</tr>
<tr>
<td></td>
<td>13-Mar</td>
<td>Midterm Exam on weeks 1-7 (Chs. 1-5)</td>
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<tr>
<td>W9</td>
<td>17-Mar</td>
<td>Spring Break - no classes</td>
</tr>
<tr>
<td>W10</td>
<td>25-Mar</td>
<td>Ch. 8 Certificate Services</td>
</tr>
<tr>
<td>W11</td>
<td>1-Apr</td>
<td>Ch. 8 Certificate Services (continued)</td>
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<tr>
<td></td>
<td></td>
<td>Doing Technical Research</td>
</tr>
<tr>
<td>W12</td>
<td>8-Apr</td>
<td>Ch. 9 IP Security</td>
</tr>
<tr>
<td>W13</td>
<td>15-Apr</td>
<td>Ch. 10 Remote Access; Ch. 11 Routing</td>
</tr>
<tr>
<td>W14</td>
<td>22-Apr</td>
<td>Ch. 11 Routing (continued)</td>
</tr>
<tr>
<td>W15</td>
<td>29-Apr</td>
<td>Ch. 11 Routing (continued); Wireless Security</td>
</tr>
<tr>
<td>Finals</td>
<td>6-May</td>
<td>11:00 AM - 1:00 PM</td>
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<tr>
<td>Week</td>
<td></td>
<td>Comprehensive Final Exam</td>
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# Student Out Of Class Time Estimate

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Out Of Class Time (hrs)</th>
<th>SLO 1 Configure</th>
<th>SLO 2 monitor</th>
<th>SLO 3 security</th>
<th>SLO 5 info tech</th>
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<tbody>
<tr>
<td>Ch. 1 Read And Test Your Understanding</td>
<td>1.3</td>
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<td>✓</td>
<td></td>
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</tr>
<tr>
<td>Ch. 2 Read And Test Your Understanding</td>
<td>1.7</td>
<td>✓</td>
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<td>Ch. 3 Read And Test Your Understanding</td>
<td>1.4</td>
<td>✓</td>
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</tr>
<tr>
<td>Ch. 4 Read And Test Your Understanding</td>
<td>1.2</td>
<td>✓</td>
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<tr>
<td>Ch. 5 Read And Test Your Understanding</td>
<td>1.8</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Ch. 6 Read And Test Your Understanding</td>
<td>2.2</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Ch. 7 Read And Test Your Understanding</td>
<td>1.5</td>
<td>✓</td>
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<td></td>
</tr>
<tr>
<td>Ch. 8 Read And Test Your Understanding</td>
<td>1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch. 9 Read And Test Your Understanding</td>
<td>1.7</td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>Ch. 10 Read And Test Your Understanding</td>
<td>2.9</td>
<td></td>
<td></td>
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<tr>
<td>Ch. 11 Read And Test Your Understanding</td>
<td>2.1</td>
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<td>Analyzing A DHCP Capture File</td>
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<tr>
<td>Analyzing A 3-Way Handshake Capture</td>
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<tr>
<td>Analyzing ICMP</td>
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<tr>
<td>Propose Three Network Address Schemes</td>
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<td>✓</td>
<td></td>
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<tr>
<td>Investigating DNS Domain Names</td>
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<td></td>
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<td></td>
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<tr>
<td>Researching Data Recovery When Using EFS</td>
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<td></td>
<td>✓</td>
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<tr>
<td>Investigating PPTP, L2TP, IPsec, And SSL</td>
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<td></td>
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<tr>
<td>Investigating Certificate Services</td>
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<td>✓</td>
<td>✓</td>
<td></td>
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<tr>
<td>Investigating Wireless Security</td>
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<td></td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Complete A CIDR Worksheet</td>
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<tr>
<td>Complete A Subnetting Worksheet</td>
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<td></td>
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<tr>
<td>Complete A Second Subnetting Worksheet</td>
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<tr>
<td>Researching IPv6 Adoption</td>
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**Total estimated student out of class time (hrs):** 53.4