Cosumnes River College

ITIS 166 / CISS 316

CISCO Networking Academy (CCNA) Cybersecurity Operations

An Online Course

Spring 2024

Instructor: Buddy Spisak **Online/In Person Office Hours**: Mondays/Wednesdays 1:30 to 3:00 p.m.
Tuesdays/Thursdays 1:30 to 2:30 p.m.

Office: SOC 115
Phone: (916) 691-7062

E-mail: spisakj@crc.losrios.edu The turnaround time for responding to most e-mails is about one to two days. Be sure to include your name and the course number in each e-mail so I can identify who you are and what the e-mail is about.

Course Web page: https://lrccd.instructure.com
Instructor Web page: http://crc.losrios.edu/spisakj/

Prerequisites: None
Advisory: CISN 304 and CISS 310

Lecture/Lab: Fully online (18360) Asynchronous – optional live office hours via zoom on Thursdays from 7 to 9 pm.

Accepted for Credit: CSU
Class Credits: 3 units

Textbook: No textbook is required for this course. All the reading materials are available via the Cisco Networking Academy at https://www.netacad.com.

Labs: Some labs are done through NDG Netlab+ at https://netlabve10.coastline.edu.

Supplies: Ear buds or a headset would be beneficial when listening to videos and a camera for Zoom conferencing.

A flash drive is recommended (at least 16GB, but 32GB is preferred) to store your work for the class**.**

Course Description:

This course equips students with the knowledge and skills needed by today's organizations that are challenged with rapidly detecting cybersecurity breaches and effectively responding to security incidents. The student would be part of a team of people in Security Operations Centers (SOCs), keeping a vigilant eye on security systems, protecting their organizations by detecting and responding to cybersecurity threats. Cisco Certified Network Associate (CCNA) CyberOPS prepares candidates to begin a career working with associate-level cybersecurity analysts within security operations centers. C-ID: ITIS 166

Student Learning Outcomes and Course Objectives:

Upon completion of this course, the student will be able to:

- Implement and manage CISCO secure networks (SLO 1)
    - Secure network devices
    - Configure Authentication, Authorization and Accounting (AAA)
- Implement network perimeter defense (SLO 2)
    - Implement firewall technologies
- Analyze threats and vulnerabilities to networks (SLO 3)
    - Implement intrusion prevention
    - Implement Virtual Private Networks (VPNs)

Methods of Measuring Student Learning Outcomes:

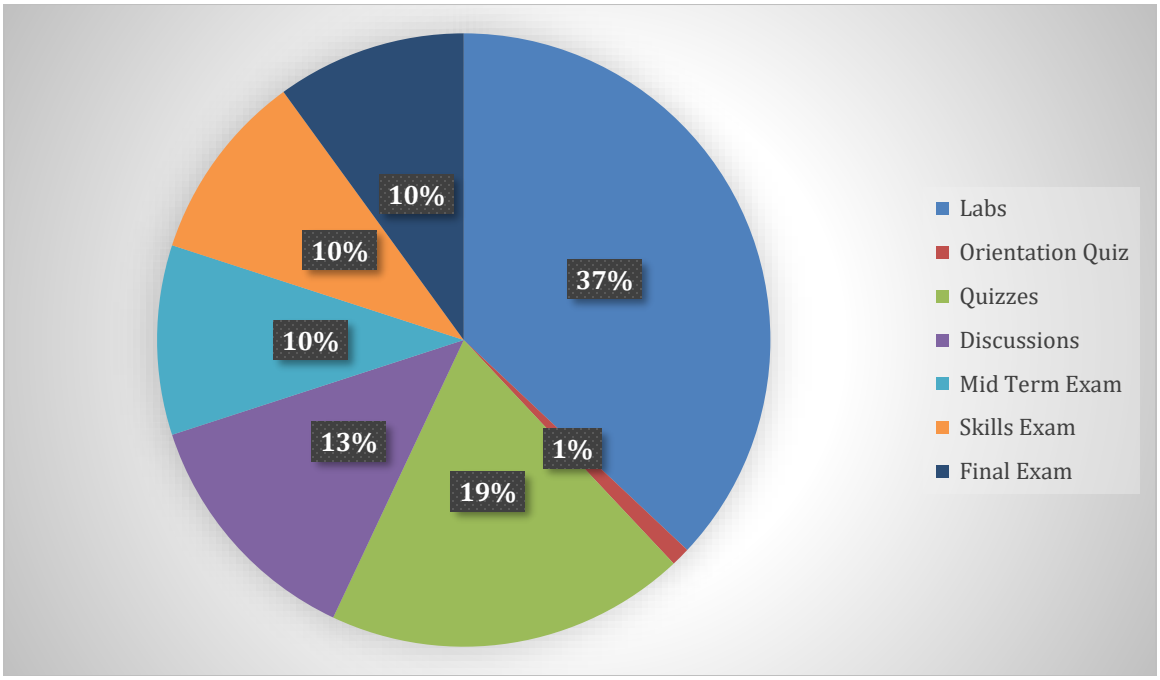
- You will demonstrate knowledge of course concepts through class discussions and achievement on quizzes, mid-term exam, skills exam, and a final examination.
- You will demonstrate competence in the coursework by completing lab work and participating in discussions during the semester.

Student Obligations:

- **Attendance**: Since this course is online, it is important to participate frequently in the class.
- **Late Work**: Unless noted, all assignments are due on Sunday by midnight each week. Late work will be accepted ONLY if you have contacted me prior to the due date either by e-mail or voice mail. In general, late work is due the next week, and no late assignments may be turned in after one week from the original due date, regardless of the reason. For every day an assignment is late, you will lose 10% of its grade.
- **Due Dates**: Unless noted, all assignments will be submitted in Canvas. If, for any reason, you cannot access Canvas or are unable to submit the assignment on time, please e-mail it to me instead so that you are not penalized for being late. Quizzes and discussion items cannot be taken past their due dates. If you miss a quiz and you want to make up points, you can take advantage of the extra credit assignments posted in Canvas. Everyone is welcome to work on the extra credit assignments. Typically, they are five to ten points each, depending on the difficulty of the assignment.
- **Labs**: There will be seven labs credited for homework for the class. The due dates are in the **SCHEDULE** portion of this handout. We will spend a lot of time working on lab activities. Each lab has a set of review questions that you will need to answer in Canvas to receive points for that assignment.
- **Discussions**: I want everyone to take a proactive approach to learning this material. This includes using the discussion feature in Canvas to ask questions and answer other students' questions. I will also post questions each week that you can answer to further your understanding of the material. I expect two postings each week unless otherwise noted.
- **Language Matters:** Part of communicating effectively with one another involves communicating correctly with one another. This is not an English class; however, I will be looking at and commenting on the basic accuracy of your written English, such as sentence boundaries, spelling, and other basic grammar issues. While you will not fail the class because of your English, you may lose some points for frequent and repeated errors. Keep in mind that your use of English can influence your readers positively—or negatively.
- **Mid-Term Exam, Skills Exam and Final Exam**: These exams will be administered through Canvas.

- **Plagiarism Policy**: It is inappropriate, and a violation of academic policy, to copy information from any source (including, but not limited to, textbooks, magazine articles, newspaper articles and internet articles) without giving proper credit to the author by using standard quotation procedures such as in-line quotes, footnotes, endnotes, etc. Quotes may not exceed 25% of the assignment's total length. You will receive no credit (0 points) for any assignment that copies any material from any other source without giving proper credit to the source(s). Repeat offenders of this policy are subject to academic discipline as outlined in the policies published by the college.
- **Cheating**: Students who cheat will receive a failing grade for the course. (See the Student Behavior and Academic Integrity page of the college website (https://crc.losrios.edu/about-us/our-values/student-rights-and-responsibilities/student-standards-of-conduct.)
- **E-mail**: Every student will be required to have an e-mail account. If you do not have an e-mail account, the college provides free e-mail accounts for all current students. To activate your account, go to https://sso.losrios.edu. Choose the option for *Expired/Forgotten Password* and then *Initial Password and Security Questions Setup*. Now, follow the directions provided.
- **E-mail etiquette**: I will not tolerate rude and demeaning comments or e-mails to anyone in this class. Please keep your comments and e-mails topic-related. If I determine that a comment or e-mail to anyone else in the class is rude or demeaning, I will warn you once. If your behavior continues to be unacceptable, I will refer you to the administration of the college for disciplinary action.
- **Personal belongings**: All cell phones, beepers, pagers, etc. should be turned off or set to vibrate during any of the online lectures/labs.
- **Disabilities:** If you have a documented disability and wish to discuss academic accommodations, please contact me or contact the Office of Disabled Student Programs and Services at 916-691-7275 as soon as possible.
- **Canvas:** This class utilizes a product called "Canvas." It is highly recommended that you check the website frequently for scheduling updates and homework assignments. Most of the homework assignments and quizzes will be done on Canvas.
- **Online Course Responsibilities:** This course requires significant self-motivation. You must not get behind. Labs and weekly assignments can take up to 11 hours to finish. Please don't try to finish them in one day. Not all activities are created equal. Some may take a bit longer than others. You would normally spend 5.5 hours per week in class for this course, a total of 162 hours. Allow yourself at least 9 hours per week to complete the activities online, including the time spent writing the class discussion postings. You should plan additional time to read the textbook and study for the quizzes. Some people believe that an online format provides a much easier way to study this subject than an on-campus framework because they love to read and avoid the parking problems. Others feel very intimidated at first. Be patient as you work your way through the activities.
- **Online Access via Zoom:** This class also utilizes a product called "Zoom." It is highly recommended that you are in a quiet room without distractions, have stable internet access, and use a video camera with a quality microphone so that you are seen and heard by everyone.

Grading:



Course Topic		Points	Total	Approximate % the of Grade
Labs (7)		50	350	37
Orientation Quiz (1)		10	10	1
Quizzes (6)		30	180	19
Discussions (6)		20	120	13
Mid Term Exam (1)		100	100	10
Skills Exam (1)		100	100	10
Final Exam (1)		100	100	10

Point System: There are 960 total assigned points.

Grade Ranges: A=864-960, B=768-863, C=672-767, D=576-671, F=0-575

Schedule: It is tentative and can change during the term. All changes will be located under the "Announcements" section in Canvas for the course.

	Day:		Lecture/Lab Schedule:	Assignment Due:	Due Date (By Midnight):
Week 1	Thurs.	1/18	Orientation and Introductions	View the Online Orientation	Sun., Jan. 21
			Chapter 1: The Danger Chapter 2: Fighters in the War Against Cybercrime	Orientation Disc.	
			Chapter 3: The Windows Operating System Chapter 4: Linux Overview	Orientation Quiz	
			Lab #1		
Week 2	Thurs.	1/25	Chapter 5: Network Protocols Chapter 6: Ethernet and Internet Protocol (IP)	Disc. #1 (Ch. 1-4)	Sun., Jan. 28
			Chapter 7: Connectivity Verification Chapter 8: Address Resolution Protocol	Lab Review #1	
			Lab #2	Quiz #1 (Ch. 1-4)	
Week 3	Thurs.	2/1	Chapter 9: The Transport Layer Chapter 10: Network Services	Disc. #2 (Ch. 5-8)	Sun., Feb. 4
			Chapter 11: Network Communication Devices Chapter 12: Network Security Infrastructure	Lab Review #2	
			Lab #3	Quiz #2 (Ch. 5-8)	
			Finishing up the first half of the course		
Week 4	Thurs.	2/8	Chapter 13: Attackers and Their Tools Chapter 14: Common Threats and Attacks	Disc. #3 (Ch. 9-12)	Sun., Feb. 11
			Chapter 15: Network Monitoring and Tools Chapter 16: Attacking the Foundation	Lab Review #3	
			Mid Term Exam (Chapters 1-16)	Quiz #3 (Ch. 9-12)	
			Lab #4		
Week 5	Thurs.	2/15	Chapter 17: Attacking What We Do Chapter 18: Understanding Defense	Disc. #4 (Ch. 13-16)	Sun., Feb. 18
			Chapter 19: Access Control Chapter 20: Threat Intelligence	Lab Review #4	
			Lab #5	Quiz #4 (Ch. 13-16)	
Week 6	Thurs.	2/22	Chapter 21: Cryptography Chapter 22: Endpoint Protection	Disc. #5 (Ch. 17-20)	Sun., Feb. 25
			Chapter 23: Endpoint Vulnerability Assessment Chapter 24: Technologies and Protocols	Lab Review #5	
			Lab #6	Quiz #5 (Ch. 17-20)	
Week 7	Thurs.	2/29	Chapter 25: Network Security Data Chapter 26: Evaluating Alerts	Disc. #6 (Ch. 21-24)	Sun., Mar. 3
			Chapter 27: Working with Network Security Data Chapter 28: Digital Forensics and Incident Analysis and Response	Lab Review #6	
			Final Review	Quiz #6 (Ch. 21-24)	
			Lab #7		
Week 8	Thurs.	3/7	Finishing up the second half of the course		Fri., Mar. 8
			What's-next-after-this-class meeting	Lab Review #7	
			Skills Exam		
			Final Exam (Chapters 17-28)	Skills Exam Final Exam	All work needs to be turned in Fri., Mar. 8.