

CYSA 520

CompTIA Security+ Guide to Network Security Fundamentals, 6th Edition
Fall 2020

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Course Website: <http://blackboard.wku.edu>

Office Hours

M	T	W	Th	F
All hours by appt	All hours by appt	All hours by appt	All hours by appt	By appt only!

*I typically respond to email within 24 hours, Monday-Friday. I do NOT guarantee a response to emails over the weekend (Friday 5 PM – Monday 8 AM).

Course Objectives

This course offers a basic guide for anyone wishing to take the CompTIA Security+ SY0-501 Certification Exam. There is no guarantee of successfully passing the certification exam expressed or implied! It provides an introduction to the fundamentals of network security, including compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography. The course covers new topics in network security as well, including psychological approaches to social engineering attacks, Web application attacks, penetration testing, data loss prevention, cloud computing security, and application programming development security. Finally, analytics is introduced from the perspective of predictive and preventive measures from attacks.

Specific topic coverage includes:

- Introduction to Security
- Malware and Social Engineering Attacks
- Basic Cryptography
- Advanced Cryptography and PKI
- Networking and Server Attacks
- Network Security Devices, Design, and Technology
- Administering a Secure Network
- Wireless Network Security
- Host, Application, and Data Security
- Mobile and Embedded Device Security
- Authentication and Account Management
- Access Management
- Vulnerability Assessment and Data Security
- Business Continuity
- Risk Mitigation

Textbook: Mark Ciampa, *CompTIA Security+ Guide to Network Security Fundamentals, Sixth Edition*. Cengage, 2018, ISBN 13: 9781337288781

- Cengage Day One Access® (~\$119). This means the fee will appear on your WKU tuition bill following the drop/add date. If you would like to purchase a hardcopy of the text, please contact the WKUStore for details.

Web Site & Modality

This course is available via your course Bb site. The Web site may contain class notes, PowerPoint slides, class announcements, the course syllabus, test dates, and other information for the course. The course is delivered in an online modality; optional Zoom sessions may be performed where value is added.

E-Mail

All students are requested to their WKU e-mail account. If you have any questions about the course or need assistance, please contact me by e-mail at any time. E-mail submissions of assignments WILL NOT be accepted, all work must be submitted via Bb or through the third-party software support package.

Grading and Evaluation Criteria

The grading scale for this course is based on a 5,800 total point scale (weird, I know). The scale is as follows:

Assignment	Number	Points Each	Total Points	
Simulations & Labs	42	100	4200	Grading Scale***
Quizzes	15	100	1500	A: 5220 & ↑
Final Exam	1	100	100	B: 4640-5219
				C: 4060-4639
				F: 4059 & ↓
Total			5800	Grades will not be rounded and extra credit will not be given on an individual basis. No division necessary, total points system!

7½-Week Course Outline

Week	Topics	Chapter Readings	Quizzes/ Exams	Labs
1	Introduction to Security	Chapter 1	Quiz 1	3
	Malware and Social Engineering Attacks	Chapter 2	Quiz 2	2
2	Basic Cryptography	Chapter 3	Quiz 3	3
	Advanced Cryptography	Chapter 4	Quiz 4	3
3	Networking and Server Attacks	Chapter 5	Quiz 5	2
	Network Security Devices, Design, and Technology	Chapter 6	Quiz 6	2
4	Administering a Secure Network	Chapter 7	Quiz 7	3
	Wireless Network Security	Chapter 8	Quiz 8	3
5	Host, Application, and Data Security	Chapter 9	Quiz 9	2
	Mobile and Embedded Device Security	Chapter 10	Quiz 10	3
6	Authentication and Account Management	Chapter 11	Quiz 11	2
	Access Management	Chapter 12	Quiz 12	4
7	Vulnerability Assessment and Data Security	Chapter 13	Quiz 13	3
	& Business Continuity	Chapter 14	Quiz 14	4
8	Risk Mitigation	Chapter 15	Quiz 15	3
	Final is to be taken between Dec 9 th and 11 th		Final Exam	

The course schedule is based upon a 7½ week term. We begin on a Wednesday and end on a Friday.

SPECIAL ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu. Please do not request accommodations directly from the

professor or instructor without a Faculty Notification Letter (FNL) from The Student Accessibility Resource Center.

TITLE IX SEXUAL MISCONDUCT/ASSAULT POLICY

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at <https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf> and Discrimination and Harassment Policy (#0.2040) at https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf.

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender-based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and **MUST** report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

WKU Counseling and Testing Center

The university experience should be challenging, but not overwhelming. To this end, the WKU Counseling Center provides a variety of services to help strengthen students' capacity to tolerate distress, form healthy relationships, and seek healthy expressions of their ideals and values. If you would like to speak with someone, you may contact WKU's [Counseling and Testing Center](https://www.wku.edu/heretohelp/heretohelpemail.php) at 270-745-3159 or use their Here To Help service at <https://www.wku.edu/heretohelp/heretohelpemail.php>. If you need immediate help, please visit the Counseling Center in 409 Potter Hall or call the 24-hour emergency help line at 270-843-4357.

EMAIL AND BLACKBOARD AS OFFICIAL MEANS OF COMMUNICATION

Each student must have an active WKU email address and a Blackboard account. Email and Blackboard are considered official communication tools of this class. If you use a different email package at home, please ensure that your WKU email is forwarded correctly. It is your responsibility to check WKU email and Blackboard regularly and to be aware of all class reminders and announcements.