![Integrated Information Technology - College of Engineering and Computing]

ITEC 493: Information Technology Security for Managers
Course Syllabus – Spring 2023
Section J10 - Online Asynchronous
3 Credit Hours

Instructor Details:
Instructor Name**:** Patrick Wright, Sr
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E-mail: pmwrightsr@sc.edu (most effective method of communication)
Office Location: Innovation Center, 550 Assembly St., Room 1315
Office Hours: by appointment (in person or via Microsoft Teams) and
- Tuesday & Thursday, 10:00 – 11:30 AM
- Wednesday, 10:00AM – 12:00 PM

Academic Bulletin Description
Information technology security from a managerial perspective, including security awareness, risk assessment, and security policy development.

Course Description
This course provides an overview of information security, including security awareness, the network security infrastructure, common terms and classifications, defense in depth, risk management, security policy development, and incident response models.

Prerequisite
ITEC-445 Advanced Networking

Learning Outcomes
After successful completion of this course, you will be able to:
1. Define information security and explain why it is important
2. Describe the diverse types of vulnerabilities and attacks
3. Describe different threat management and cybersecurity resources
4. Identify the diverse types of threats and attacks of endpoints
5. Describe different endpoint and application development security
6. List and compare the diverse types of mobile, embedded, and specialized device security
7. Define basic cryptography and attacks against it
8. Explore securing an enterprise computer network
9. Examine attacks that target networks and how to assess vulnerabilities
10. Examine how to protect a network through network security appliances and technologies
11. Explain the concepts and tools for protecting cloud and virtual environments
12. How to manage wireless network security
13. Discuss and Examine authentication credentials
14. Discuss incident preparation, response, and investigation

Required Course Materials

Textbook
Mark Ciampa (2022), *CompTIA Security+ Guide to Network Security Fundamentals* (7th Edition). Boston, MA: Cengage. ISBN: 978-0-357-42437-7

Course Assignments and Grading

Quizzes/Homework
Be prepared to respond briefly in writing to short-answer and multiple-choice questions on the assigned material frequently during the semester. Most of the quizzes/homework will be taken open book outside of the classroom. If you are keeping up with the reading, the quizzes will be an excellent way to bolster your course grade.

Class Labs
During random weeks, an email will go out notifying students that a class lab has been assigned. Students will have a few days to complete this assignment. These assignments are designed to keep students in the habit of logging into Blackboard weekly and monitoring their emails. If you miss the email and announcement when the assignment is given, you cannot make it up.

Labs
The labs will be firsthand practice of cybersecurity materials using the Cyberinfrastructure lab @ USC and other online lab systems.

Midterm Exam
An exam using multiple-choice, true/false, and short answer questions of the material covered up to that point.

Final Exam and Project
This assignment has two parts, an exam using multiple-choice questions and the other part is a firsthand lab project to be completed outside of class.

Course Assignment Weighting and Grading Scale
All grades will be posted on Blackboard. You are strongly encouraged to check your scores in Blackboard regularly. A final letter grade will be assigned based on percentages.

Assignment Weights	Percent
Quizzes	25%
Class Labs	10%
Labs	30%
Midterm	15%
Final Exam and Project	20%
Total	100%

Grading Scale		
90.0% - 100%	=	A
85.0% - 89.9%	=	B+
80.0% - 84.9%	=	B
75.0% - 79.9%	=	C+
70.0% - 74.9%	=	C
65.0% - 69.9%	=	D+
60.0% - 64.9%	=	D
0% - 59.9%	=	F

Minimum Technical Competencies

Minimum technical skills are needed in this course. All work in this course must be completed and submitted online through Blackboard. Therefore, you must have consistent and reliable access to a computer and the Internet. The minimum technical skills you have include the ability to:

- Organize and save electronic files
- Use USC email and attached files
- Check email and Blackboard daily
- Download and upload documents
- Locate information with a browser
- Use Blackboard

Course Technology

A computer is needed in order complete assignments and communicate with classmates and instructor. Course will use the Cyberinfrastructure lab @ UofSC for all labs. Currently Google Chrome and Mozilla Firefox work well with these labs.

Classroom Interaction

Instructor-Student Interaction

Instructor presents important course material and announcements to students in class and Blackboard. I will respond to all discussion board posts and emails within thirty-six instructional hours. Feedback will be provided on all assignments within forty-eight instructional hours.

Student-Student Interaction

Students can engage with other students enrolled in course via Blackboard discussion boards, email, or in-class. There are discussion boards created for course. There is an initial Classmate Introductory Assignment, a Technical Assistance discussion board for technical help and a Course Café Discussion board where students can create any discussion forum to aid in their learning environment.

Student-Content Interaction

Students will engage with course content by watching any video lectures and demonstrations within each learning module in Blackboard. Students will also use the Power Point slides and their book as their reading materials as well as other web sites.

Course Policies and Procedures

The [Undergraduate Studies Bulletin](#) is the official document of record concerning undergraduate academic programs and regulations.

Attendance Policy

When you miss class, you miss valuable information. If you are absent, you are responsible for learning material covered in class. If you have an [excused absence](#) you will be permitted to make up coursework or complete an equivalent assignment agreed upon with me.

To arrange excuses for absences that can be anticipated at the start of the term, you should:

- Submit a request in writing (email is acceptable) stating the dates of the anticipated absence no later than the end of the second week of the course.
- Explain the reason for absence. In some cases, documentation may be required. Please [consult the policy](#) for additional information.
- Include any request for make-up work.

To arrange excuses for absences that cannot be anticipated at the start of the term, (e.g., legal proceedings or illness), you should, at the first opportunity, submit in writing a request stating:

- The date and reason of absence. In some cases, documentation may be required.
- Make request for make-up work as soon as reasonably possible.

Academic Integrity
You are expected to practice the highest possible standards of academic integrity. Any deviation from this expectation will result in a minimum academic penalty of your failing the assignment and will result in additional disciplinary measures. This includes improper citation of sources, using another student's work, and any other form of academic misrepresentation.

The first tenet of the Carolinian Creed is, "I will practice personal and academic integrity."

Below are some websites for you to visit to learn more about University policies:
- [Carolinian Creed](#)
- [Academic Responsibility](#)
- [Office of Student Conduct and Academic Integrity](#)
- [Information Security Policy and Standards](#)

Class Conduct
Professionalism will be always expected. Because the university classroom is a place designed for the free exchange of ideas, we must show respect for one another in all circumstances. We will show respect for one another by exhibiting patience and courtesy in our exchanges. Appropriate language and restraint from verbal attacks upon those whose perspectives differ from your own is a minimum requirement. Courtesy and kindness are the norm for those who participate in my class.

Late Work/Make-up Policy
No late or make-up work is accepted. All assignments, quizzes, and exams are due by the deadline as posted on the course schedule.
Please plan accordingly and complete these assignments in advance of their deadlines to ensure any unanticipated circumstances do not result in a missed assignment. User error does not qualify you for any kind of makeup or retake opportunity.

Completing and submitting the assignments responses by the due date is the sole responsibility of student. If you receive an incomplete score because of failure to submit the assignment or test by the due date, then your score for that assignment will be recorded as "zero."

Diversity and Inclusion
The university is committed to a campus environment that is inclusive, safe, and respectful for all persons, and one that fully embraces the Carolinian Creed. To that end, all course activities will be conducted in an atmosphere of friendly participation and interaction among colleagues, recognizing and appreciating the unique experiences, background, and point of view each student brings. You are always expected to apply the highest academic standards to this course and to treat others with dignity and respect.

Expectations of the Instructor
I am expected to facilitate learning, answer questions appropriately, be fair and objective in grading, provide timely and useful feedback on assignments, maintain adequate office hours, and treat you as I would like to be treated.

Course Communication
You are required to use your USC email account throughout this course. I will be communicating with you regarding grades and assignments. If you need to contact me, the best method is via email. All e-mails must contain "**ITEC493**" (one word and quotes are not required) somewhere in the subject line. I will reply to emails within 48 hours and will provide feedback on assignments within five days

(usually less). Students may also post questions pertaining to the course on the Blackboard Discussion Board. These questions will be answered within 48 hours. If you are having trouble with this course or its material, you should contact me via email to discuss the issues. Announcements will be posted to this course whenever necessary.

Copyright/Fair Use Statement
I will cite and/or reference any materials that I use in this course that I do not create. You, as students, are expected to not distribute any of these materials, resources, quizzes, tests, homework assignments, etc. (whether graded or ungraded).

Student Success Center
In partnership with USC faculty, the Student Success Center (SSC) offers several programs to assist you in better understanding your course material and to aid you on your path to success. SSC programs are facilitated by professional staff, graduate students, and trained undergraduate peer leaders who have previously excelled in their courses. Resources available to you in this course may include:

- **Peer Tutoring:** You can make a one-on-one appointment with a Peer Tutor. Drop-in Tutoring and Online Tutoring may also be available for this course. Visit their website for a full schedule of times, locations, and courses.
- **Success Consultations:** In Success Consultations, SSC staff assist you in developing study skills, setting goals, and connecting to a variety of campus resources. Throughout the semester, I may communicate with the SSC via Success Connect, an online referral system, regarding your progress in the course. If contacted by the SSC, please schedule a Success Consultation. Success Connect referrals are not punitive and any information shared by me is confidential and subject to FERPA regulations.

SSC services are offered to all USC undergraduates at no additional cost. You are invited to call the Student Success Hotline at (803) 777-1000, visit the SSC website, or stop by the SSC in the Thomas Cooper Library on the Mezzanine Level to check schedules and make appointments.

Library Resources
Library Resources
The university library has great resources for finding out how to cite materials in your projects. Remember that if you use anything that is not your own writing or media (quotes from books, articles, interviews, websites, movies – everything) you must cite the source in MLA format.

Blackboard and Technology
Blackboard and Technology As a student in this course, you have access to support from the Division of Information Technology (DoIT) for Blackboard and computer issues. The service desk can be reached at 803-777-1800.

Counseling Services
Counseling Services The University offers counseling and crisis services as well as outreach services, self-help, and frequently asked questions.

Technical Support
Throughout the semester, you may run into technical issues or problems. When you run into these issues, you must first contact the appropriate technical support staff. If you have problems with your computer, technology, IT-related questions, support, including Blackboard, please contact the Division of Information Technology (DoIT) Service Desk at (803) 777-1800 or submit an online request through the Self-Service Portal or visit the Carolina Tech Zone

The Service Desk is open Monday – Friday from 8:00 AM – 6:00 PM (Eastern Time Zone). If you are in the Columbia, SC area, the Thomas Cooper Library at USC has computers for you to use in case you encounter computer issues/problems. If you are not located in the Columbia, SC area, most regional campuses and public libraries have computers for public use.

Disability Services

[Student Disability Resource Center](#) The Student Disability Resource Center (SDRC) empowers students to manage challenges and limitations imposed by disabilities. Students with disabilities are encouraged to contact me to discuss the coordination of any accommodations needed to fulfill course requirements (within the first week of the semester). To receive reasonable accommodations from me, you must be registered with the Student Disability Resource Center (1705 College Street, Close-Hipp Suite 102, Columbia, SC 29208, 803-777-6142). Any student with a documented disability should contact the SDRC to make arrangements for appropriate accommodations.

DISCLAMER:

Should change become necessary, the instructor reserves the right to adjust the requirements, pace, or scheduling of this course. Any changes will be announced before they become effective.

Course Schedule – 2023 Spring - ITEC493

	Date	Topic	Due Date
Week 01	1/09	Module 0 – Syllabus Module 01 – Intro to Security	Quiz 01/15
Week 02	1/16	Module 01 – Intro to Security Module 02 – Threat Management and Cybersecurity Lab 01: Reconnaissance: Scanning with NMAP, Vulnerability Assessment with OpenVAS	Quiz 01/22 Quiz 01/22 Lab 01/22
Week 03	1/23	Module 03 – Threats and Attacks on Endpoints Lab 02: Remote Access Trojan (RAT) using Reverse TCP	Quiz 01/29 Lab 01/29
Week 04	1/30	Module 04 – Endpoint and Application Development Security Lab 03: Escalating Privileges and Installing a Backdoor	Quiz 02/05 Lab 02/05
Week 05	2/06	Module 05–Mobile, Embedded & Specialized Device Security Lab 04: Collecting Information with Spyware: Screen Captures and Keyloggers	Quiz 02/12 Lab 02/12
Week 06	2/13	Module 06 - Basic Cryptography Lab 05: Social Engineering Attack: Credentials Harvesting and Remote Access through Phishing Emails ***No assignments accepted late starting this week***	Quiz 02/19 Lab 02/19
Week 07	2/20	Module 07 – Public Key Infrastructure and Cryptographic Protocols Lab 06: SQL Injection Attack on a Web Application	Quiz 02/26 Lab 02/26
Week 08	2/27	Midterm – Modules 1 – 7 (*Available 02/26 – 03/03*) Lab 07: Cross-site Scripting (XSS) Attack on a Web App	Test 03/03 Lab 03/03
	3/06	Spring Break 3/6 – 3/12	
Week 09	3/13	Module 08 – Networking Threats, Assessments, & Defenses Lab 08: Denial of Service (DoS) Attacks: SYN/FIN/RST Flood, Smurf attack, and SlowLoris	Quiz 03/19 Lab 03/19
Week 10	3/20	Module 09 – Network Security Appliances and Technologies Lab 09: Cryptographic Hashing and Symmetric Encryption	Quiz 03/26 Lab 03/26
Week 11	3/27	Module 10 – Cloud and Virtualization Security Lab 10: Asymmetric Encryption: RSA, Digital Signatures, Diffie-Hellman	Quiz 04/02 Lab 04/02
Week 12	4/03	Module 11 – Wireless Network Security Lab 12: Configuring a Stateful Packet Filter using iptables	Quiz 04/09 Lab 04/09
Week 13	4/10	Module 12 – Authentication Lab 13: Online Dictionary Attack against a Login Webpage	Quiz 04/16 Lab 04/16
Week 14	4/17	Module 13 – Incident Preparation, Response, & Investigation Lab 14: Intrusion Detection and Prevention using Suricata	Quiz 04/23 Lab 04/23
Final Exam	**5/2**	**Final Exam Tuesday, May 2 - 12:30 p.m.**	

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Class Labs – NDG Security+ v3 – Scheduled randomly throughout the semester

Class Lab 1 - Lab 01: Investigating ARP Poisoning
Class Lab 2 - Lab 03: Password Cracking with Windows
Class Lab 3 - Lab 04: Performing Active Reconnaissance with Windows
Class Lab 4 - Lab 06: Wireless Networking Attack and Mitigation Techniques
Class Lab 5 - Lab 07: Analyze and Differentiate Types of Attacks and Mitigation Techniques
Class Lab 6 - Lab 14: Implementing Common Protocols and Services for Basic Security Practices
Class Lab 7 - Lab 15: Working with Android