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SPRINGFIELD TECHNICAL COMMUNITY COLLEGE
School of Engineering Technologies
Department of Computer Systems Engineering Technology

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Course: CSE-220 Computer and Network Security   **Professor:** Andrew Collins
Section: D01 Lecture   **Office:** Bld.17 - Rm.631
Credits: 3   **Telephone:** 755-4759
Date: Fall 2016   **Email:** *ajcollins@stcc.edu*
Course Web Site: http://cset.stcc.edu/forums   **Classroom:** Bld.17 - Rm.621
Meeting hours: Monday, Wednesday, Friday from 11:15 AM to 12:05 PM

1. Catalog Description:

Topics include security management practices, access control systems, telecommunications and network security, public and private key cryptography, security concerns for application and software development, business continuity planning and disaster recovery planning. Students will be able to select and use cryptographic tools to secure data, examine firewall settings, use & verify common cryptographic hash signatures, and create signed files. Target skills are the creating and maintenance of a security plan, the system administrator's responsibilities to implement the plan, techniques and tools to audit and monitor security, threat analysis, and increasing security awareness. An overview of the current security certifications and their requirements will be given at the end of the class.

PREREQUISITE: Students are expected to have some computer and network experience. Some homework requires Internet access to the department's servers. Students may take the course at the instructor's discretion.

2. Course Content:

This course covers the concepts surrounding computer and network security. In addition the students will be expected to use common tools to evaluate the state of computer and network the security.

3. Student Learning Outcomes:

- Identify fundamental concepts of computer security.

- Identify security threats.

- Harden internal systems and services.

- Harden internetwork devices and services.

- Secure network communications.

- Establish security best practices for creating and running web-based applications.

- Manage public key infrastructure (PKI).

- Manage certificates.

- Enforce organizational security policies.

- Monitor the security infrastructure.

- Manage security incidents.

3. Certification Alignment:

The curriculum is aligned with CompTIA Security+. Certification is NOT guaranteed upon completion of this course. The student will need additional studying and test preparation material for the certification.

4. E-Texts and Requirements:

Testout Security Pro
ISBN: 978-1-935080-44-2
Testout.com

It is a class requirement to obtain the online course material and complete the online course material. Failure to obtain the course material and be enrolled at the TestOut website by the end of the second week may result in the instructor dropping you from the class. Most grading is done through this website.

You will sometimes need a USB drive or drives to save software, create backups, and perform similar tasks. These should be 4GB or greater.

4. Grading & Performance Policy:

A. Attendance: Attendance is mandatory. Students are expected to be in class on time, pay attention to the lecture, and participate in class.

Each three absences will result in the loss of a letter grade. Excessive absences will result in the student being dropped from the course at the professor's discretion. Usually the student may be dropped after three unexcused absences. 'Excessive' is quantized at the professor's discretion. If a student is more than 10 minutes late to a class without prior permission from the instructor, the student will be considered absent from that class. The professor may or may not make allowances after this limit. Each incident is different and the professor may allow some latitude in unique situations.

If the student knows in advance he or she may not be in lecture it is the student's responsibility to notify the professor in advance of any missed classes.

It is the student's responsibility to make arrangements to make up any missed work. Missed work may only be made up if the professor allows. The schedule for any make up work will be at the instructor's discretion.

Attendance will be taken at each lecture. Be sure to sign in or follow the instructor's guidelines to properly record your attendance in lecture. It is your responsibility to be sure you sign the attendance sheet.

B. Policy on course disruptions: Students are expected to act in a professional and mature manner. Course disruptions, loud or disruptive behavior, intimidation, violation of the policies and procedures set down in the STCC Student Handbook, or similar problems will result in the student being removed from the class.

Be sure to turn off all cell phones or other electronic devices before entering the lecture or lab. In many cases the professors allow cell phones during lab but not while lectures are in process. Talking or causing disruptions while lecture is in process is also considered disruptive.

DO NOT use any smokeless vaping devices in the classroom. These devices are considered smoking under school policy and may result in immediate discharge from the class. Also, if you bring any food or beverage into the classroom, you are expected to clean up after yourself.

Students will need to bring their own headphones/ear-buds to watch videos or review material during lab and non-class hours. Playing audio/video through speakers is considered disruptive to the lecture and lab.

At the professor's discretion he or she may attempt to correct the student's behavior or remove the student from the class.

C. Due Dates: The student is required to pass in all assigned work by the due date. Late work is depreciated by 50% every day it is late. Solutions to the homework and labs may be distributed. Once the solution is distributed no further homework will be accepted. It is the student's responsibility to be aware of all work assigned and the due dates.

D. Quality: Submission of poor quality work will not be accepted. Submissions which do not meet minimum documentation standards set forth in class, are incoherent, or are illegible will be returned [not graded] to the student. These cases are treated as if no work was submitted.

E. Academic Honesty: All students are assumed to do their own work. Using other's work is permitted, under some circumstances, with proper credit to the original author(s). Academic dishonesty of any manner is not tolerated. In the event the professor discovers it, ALL PARTIES INVOLVED receive a grade of "F" [0.0]. No distinction is made between those "cheating" and those being "cheated from". If a student believes his/her work is being borrowed without consent it is her/his responsibility to report the incident. This is the only means to escape the consequences. All incidents are examined on a case-by-case basis by the professor whose decision is final

6. Grading and Evaluation Criteria:

Online course material and chapter quizzes and labs	60%
Attendance & in class work	20%
Final Exam	20%
Total	100%

Notes:
      There is no mid-term exam; your mid-term grade will be based on the amount of completed work in Testout up to the half waypoint of the class. This point will be set at the instructor's discretion.

A. Exams: The final exam for this class is a practical hacking examination. The student will be required to schedule a time, or attend a scheduled session to complete the exam.

B. Course work: Each section in Testout provides the student with a series of videos, review sheets and a quiz at the end of each section. Some sections and chapters will give the student a virtual lab as well. The student is expected to complete all the quizzes and virtual labs. Watching the videos is recommended but not mandatory.

7. Class Organization:

The course is a lecture format, but some occasional lab time may present itself if the opportunity is available or it is easier to demonstrate a concept. Homework will consist of completing selected assignments located in the Testout e-book. Course materials may be located in Blackboard or on the department's web site. The instructor may include additional in class material as time permits.

Students are expected to have Internet access, use common office applications for homework & documentation, and have the ability to save their work (USB key or other).

8. Office Hours
Office hours will be posted on the instructor's office door. You can also reach me by my email address at the top of this document.

8. Course Schedule: [may vary slightly]

Week	Topic
1	Introduction
2	Access control
3	Cryptography
4	Cryptography
5	Policy, Procedures and awareness
6	Physical Security
7	Perimeter defense
8	Network defenses
9	Host defenses
10	Data defenses
11	Assessments and audits
12	Vulnerability Testing and Monitoring
13	Wireless Security
14	Wireless Security
15	Comprehensive final exam

Note: The instructor retains the right to adjust the course at anytime

9. Additional Material:

At the instructor's discretion, he or she may introduce additional material to the class at any time. This material may consist of White Hat hacking, penetration testing, reconnaissance, and other hacking techniques.

It will also be noted, that when this material is introduced into the class, that the student will not use the material in a fashion that is illegal or otherwise destructive in nature. **The instructor IS NOT responsible for the student's actions** with the knowledge gained from additional material that is presented. It is the student's responsibility to use good judgment and display good morale character, along with a respect of law when practicing the use of White Hat hacking and other techniques. These techniques are to be used in a closed and purely academic environment.

10. Students with Special Needs:

In compliance with Springfield Technical Community College's policy and equal access laws, disability-related accommodations or services are available. Students will not receive services until they register with the Office of Disability Services (ODS). Proper registration will enable the ODS to verify the disability and determine reasonable academic accommodations. ODS is located in Building 27 on the 2nd Floor and can be reached at 755-4785.

After the student has properly registered with disability services, it is the responsibility of the student to report back to the instructor, with a copy of their disability form. If the student does not report back, and the instructor does not receive a copy of disability form; it is assumed by the instructor that the student does not have a disability.

Upon receiving the Disability form, the instructor will sign the form acknowledging that they have received the form and understand the requirements as issued by the Office of Disability Services. The instructor will then make a copy of the signed form and the student will receive the original copy.