Reedley College

IS-70 Cyber Security Intro – (52723)

Semester/Year: Spring 2019	**Instructor**: Jesus Ruiz Garcia **Office Hours:** Available by appointment **Office Location: Room 352** **Phone number:** 559-869-9041 **Email**: jesus.ruiz-garcia@reedleycollege.edu

Length: 9 weeks
Schedule:
All classes meet on Monday/Wednesday nights
   Time: 5:00-6:50 p.m. lecture
   Lab 7:00-9:50 p.m.
	Delivery Mode:
	___**100% Face to Face**
	___**100% Online**
	_**X**_**Blended (Combination of Face-to-Face and Online)**

Course Description

An introduction to the fundamental principles and topics of Information Technology Security and Risk Management at the organizational level. It addresses hardware, software, processes, communications, applications, and policies and procedures with respect to organizational Cybersecurity and Risk Management. Preparation for the CompTIA Security+ certification exams

Student Learning Objectives and Outcomes

Upon successful completion of the course, students will be able to:

Objectives:

☐ describe the fundamental principles of information systems security.

☐ define the concepts of threat, evaluation of assets, information assets, physical, operational, and information security and how they are related.

☐ evaluate the need for the careful design of a secure organizational information infrastructure.

☐ perform risk analysis and risk management.

☐ determine both technical and administrative mitigation approaches.

☐ explain the need for a comprehensive security model and its implications for the security manager or Chief Security Officer (CSO).

☐ create and maintain a comprehensive security model.

☐ apply security technologies.

☐ define basic cryptography, its implementation considerations, and key management.

- ☐ design and guide the development of an organization's security policy

- ☐ determine appropriate strategies to assure confidentiality, integrity, and availability of information.

- ☐ apply risk management techniques to manage risk, reduce vulnerabilities, threats, and apply appropriate safeguards/controls.

Outcomes:

A. Demonstrate a knowledge and understanding of the fundamental terminology and theory associated with Network Security.

B. Install, configure, and fine tune various tools used in the field of Network Security.

Required Texts and Study Material

Security+ Guide to Networking Security Fundamentals 5th Edition. ISBN-13: 978-1305093911
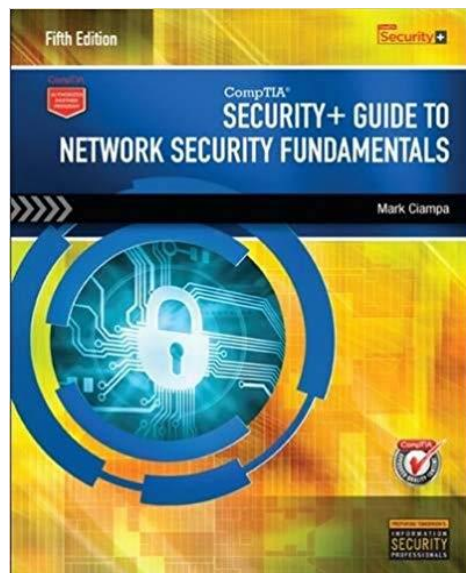
Attendance: Attendance is required, and the instructor reserves the right to take roll at any time during the duration of the class period. To achieve successful completion of the course, it is critical for the students taking this course to attend all classes. I will drop you if you have more than three consecutive unexcused, absences.

Policies: If on campus: Campus code requires that shoes or sandals and appropriate attire be worn at all times. Eating, drinking, and smoking is not allowed in the classroom or computer labs. A student will be subject to discipline if she or he:
- Prevents other students from pursuing their authorized curricular or co-curricular interests.

- Interferes with or disputes faculty and administrators who are fulfilling their professional responsibilities.
- Prevents classified employees from fulfilling their prescribed duties.
- Deliberately endangers the safety of persons or the security of college property.
- Violates Reedley College computers and networks usage policy.

Electronic Devices
In order to respect the classroom learning/teaching environment, please make sure that <u>Cell Phones</u> are turned off or in silence mode while class is in session. Computers will be provided at the lab during the lecture to complete all class work. The use of personal computers will be allowed upon request and permission from the instructor.

Learning Methods:

a. Lectures – used to provide bring all students to a level playing field of learning
b. Required reading
c. Class projects and Canvas assignments (lab work)
d. Textbook assignments (lab work)

2. **Reading and Lab Assignments:** Assigned chapters MUST be read prior to attending class. Students may complete labs in class or online. You may collaborate with fellow students on lab assignments.

Outcomes assessment:

Projects (30 @ 10 points each)	300 points
Case Projects (15 @ 20 points each)	300 points
Chapter Review Questions (15 @ 20 points each)	300 points
Exams (2 @ 50 points each)	100 points

Total	1000 points

Grading scale:

90-100% = A 80-89% = B 70-79% = C 60-69% = D <60% = F

Final Drop Date: The final drop date for this class is: TBA

Examinations and assignments: All examinations must be completed individually. Students may make use of the help feature of any application provided in their computers. Students may use their books and notes for all examinations.

Deadlines
Late work cannot be accepted for a grade. This course covers a large amount of material which does not allow the time for makeup work.

Schedule:

(Note** I reserve the right to change any or all the schedule according to the needs of the class)**

Week	Reading Assignments	Homework/Lab Assignments	Other Assignments
Week 1 *March 18*	Read: Chapter 1: Introduction to Security Chapter 2: Malware and Social engineering attacks	1. Chapter 1 review questions 2. Chapter 2 review questions 3. Project 1-3 & 1-4 4. Project 2-3 5. Project 2-4	Class orientation, Intro to Blackboard, syllabus review, district policies, companion website. Introduction to Networking Case Case Project 1-2 Case Project 1-3 Case Project 2-4
Week 2 *March 25*	Read: Chapter 3: Basic Cryptography Chapter 4: Advanced Cryptography	1. Chapter 3 review questions 2. Chapter 4 review questions 3. Project 3-1 4. Project 3-4 5. Project 4-1 6. Project 4-2	1. Case Project 3-10 2. Case Project 4-8
Week 3 *April 1*	Read: Chapter 5: Networking and server attacks Chapter 6: Network Security Devices…	1. Chapter 5 review questions 2. Chapter 6 review questions 3. Project 5-1 4. Project 5-2 5. Project 6-1 6. Project 6-2	1. Case Project 5-7 2. Case Project 6-6
Week 4 *April 8*	Read: Chapter 7: Administering a Secure Network Chapter 8: Wireless Network Security	1. Chapter 7 review questions 2. Chapter 8 review questions 3. Project 7-1 4. Project 7-4 5. Project 8-1 6. Project 8-3	1. Case Project 7-7 2. Case Project 8-7 3. Quiz 1

Week 5 April 15	Read: Chapter 9: Client and Application Security Chapter 10: Mobile and Embedded Device Security	1. Chapter 9 review questions 2. Chapter 10 review questions 3. Project 9-1 4. Project 9-2 5. Project 10-1 6. Project 10-2	1. Case Project 9-7 2. Case Project 10-7
Week 6 April 22	Read: Chapter 11: Authentication and Account Management Chapter 12: Access Management	1. Chapter 11 review questions 2. Chapter 12 review questions 3. Project 11-1 4. Project 11-2 5. Project 12-1 6. Project 12-2	1. Case Project 11-1 2. Case Project 12-8
Week 7 April 29	Read: Chapter 13: Vulnerability Assessment…	1. Chapter 13 review questions 2. Project 13-1 3. Project 13-2	1. Case Project 13-8
Week 8 May 6	Read: Chapter 14: Business Continuity	1. Chapter 14 review questions 2. Project 14-1 3. Project 14-2	1. Case Project 14-9
Week 9 May 13	Read: Chapter 15: Risk Mitigation	4. Chapter 15 review questions 5. Project 15-1 6. Project 15-2	2. Case Project 15-7 3. Quiz 2

Academic Dishonesty: Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly obtained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors.

Plagiarism: Plagiarism is theft and can be committed intentionally or unintentionally. Plagiarism can occur by representing the writings, works or ideas of another as one's own or by copying material from a resource without proper citation. Exact copying should be correctly documented. Paraphrasing, when the basic sentence structure, phraseology and unique language remain the same, also requires proper citation.

Whenever you quote from, make references to, or use ideas attributable to others in your writing, you must identify these sources in citations or bibliography, or both. If you do not, whether deliberately or accidentally, you have committed plagiarism. Plagiarism, defined as the act of stealing or using as one's own the ideas or writing of another, is not permitted in college or university work or in any published writing. "Plagiarism involves two kinds of wrongs. Using another person's ideas, information, or expressions without acknowledging that person's work constitutes intellectual theft. Passing off another person's ideas, information, or expressions as your own to get a better grade or gain some other advantage constitutes fraud" (MLA Handbook for Writers of Research Papers, 6th edition, New York: Modern Language Association of America, 2003, p. 66).

To avoid plagiarism, students must acknowledge, cite, and reference any material that is not original or common knowledge. Repeating common knowledge (e.g., "John F. Kennedy was elected president in 1960") is not plagiarism. But what is common knowledge may not be universally agreed upon. Plagiarism can be inadvertent, rather than deliberate, resulting from not knowing the rules or being careless. However, lack of intention is not an excuse. A good rule-of-thumb to use in order to avoid plagiarism is "when in doubt, cite."

Sanctions for academic dishonesty range from reprimands and counseling to expulsion from Reedley College.

Cheating: Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers in an attempt to gain an unearned academic advantage. Cheating can take the form of crib notes, looking over someone's shoulder during an exam, or any forbidden sharing of information between students regarding an exam or exercise. Also, the storing of information in graphing calculators, pagers, cell phones, and other electronic devices has cropped up since the information revolution began.

Accommodations for students with disabilities: If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act please contact me as soon as possible.

Fundamental Principles of Study
1. *Diligent preparation for class.* You may assume that the instructor will operate on a collaborative learning model; that is, all persons in the room are expected to be knowledgeable about the topic for the day and to have something to contribute.
2. *Active participation in class discussions.* Because of this collaborative learning model, your contribution to the class is vital. Your focused and attentive participation, openness to others' ideas, and positive attitude toward the learning experience are expected throughout the course.
3. *Intellectual engagement.* Students should view assignments as learning opportunities. Going above and beyond what is expected in the assignment helps you mature as a scholar. Bringing your own

ideas or ideas from sources beyond those listed in the syllabus will make an important contribution to the class learning experience.

4. *Self-regulation.* At this level of study, students are expected to regulate their own behavior and to not need to be reminded of deadlines. Ask for feedback, take the initiative to get what you need from the class, and be courageous in the questions you ask. Hold one another accountable for the quality of the learning experience. Take risks and take responsibility for your own learning.

5. *Coherent, professional writing.* Students are expected to write in a way that is clear, concise, coherent, and professional. Every written assignment should be at least a second draft that has been reviewed by another person for clarity. If you have difficulty with your writing, take the initiative to pursue assistance in this area.

6. *Collegiality.* College is an opportunity for you to become a colleague with your instructor and your classmates. Respect for one another's ideas, a willingness to engage the hard questions, and openness to new ways of thinking about issues are some of the hallmarks of collegiality. An appropriate balance of challenge and support for one another is expected in this course.

College Policy and Procedures

Students are responsible for becoming familiar with the information presented in the Academic Catalog and for knowing and observing all policies and procedures related to their participation in the college community. Reedley College Catalog may be found on the colleges website or at the following link
http://www.reedleycollege.edu/admissions-aid/College%20Catalogs.html

Course Syllabus – Signature Page
IS 70 Cyber Security Intro. (52723)

The attached syllabus describes the terms and conditions under which the instruction of the above- mentioned course will be delivered; the assessment of student work will be conducted and final grades assigned; and the policies to which students will be held as a condition of their enrollment in the course in good standing.

With the exception of changes to the course schedule, any changes to this syllabus will be announced in class on consecutive days, distributed in class in writing, and e-mailed to the class list, at least one week in advance of the changes taking effect.

Students are reminded that they are expected to attend every scheduled course meeting, and will be held accountable to all the announcements and course material of each class meeting, regardless of whether they were in attendance. This includes changes to the policies on this syllabus as well as changes to the course schedule.

In addition, Reedley College recognizes only `reedleycollege.edu` e-mail addresses as official modes of communication to conduct College business. All communications regarding class content and conduct will be sent exclusively to students' official `reedleycollege.edu` address.

Consent to Syllabus Terms

By signing below, I acknowledge that I have received and read a copy of the attached syllabus and agree to abide by its terms.

I further agree that I will return this signed signature page to the instructor by the end of the drop/add period listed in the Course Schedule, or my continued enrollment in the course may be jeopardized.

Print Name: _____

Signed: _____   **Date:**_____