**SEC200: INTRODUCTION TO NETWORK SECURITY**

**Course Syllabus**

**Course Description**

In this course you will explore the essentials of network security. You will build a solid understanding of concepts that include compliance and operational security; malware and social engineering attacks, threats and vulnerabilities; attack and defense techniques; web application, data, operating system, and host security; access and cryptography.

Also, you will maximize your knowledge and retention with the development of supplemental activities that will allow you to accomplish your goals and ensure a good learning experience.

**General Course Information**

|  |  |
| --- | --- |
| Number of Units/Weeks | 4/10 |
| #Hours Lecture/#Hours Laboratory/#Hours ELP | 40/0/80 |
| Prerequisite(s) | None |
| Co-requisite(s) | None |
| Course Developer(s) | Lydia Zeman, MSCSIA |
| Date Approved/Last Review | November 22, 2016 |

**Learning Outcomes**

* You will list major events in Cybersecurity history and apply this knowledge to examine current events
* You can assess the relevance and application of cybersecurity in everyday life
* You will use oral communication skills necessary to effective communication
* You will identify security concerns on current technology
* You will distinguish social engineering and malware attacks

**Instructional Methods Employed in this Course**

Several instructional/learning methods will be employed in this course, including the following:

* Lecture and reading assignments
* Research projects
* Current events analysis
* Team environment
* Practical application of theory and skills in authentic design projects
* Build on prior knowledge and experience of students to enhance richness of class activities.

**Information Resources for this Course**

**Textbook**

CompTIA Security+ Get Certified Get Ahead, SY0-401 Study Guide

Author Darril Gibson, CISSP

ISBN-13: 978-1939136022

ISBN-10: 1939136024

**Topics and Assignments**

Type of assignment:

* Lecture – Considered lecture hours
* Classroom discussion (CD) - Considered lecture hours
* In-class (IC) exercise – Considered lecture hours
* Delivering oral presentations – Considered lecture hours
* Homework (HW) exercise – Considered Enhanced Learning Project (ELP), work done outside class
* Reading - Considered Enhanced Learning Project (ELP), work done outside class
* Quiz, Midterm or Final – considered lecture hours

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| --- | --- | --- | --- | --- | --- |
| **Week 1** | | | | | |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture | Assessment quiz | 1 |  |  |  |
| Lecture 1A | Security basics | 1.5 |  |  |  |
| Lecture 1B | Control types and methods | 1.5 |  |  |  |
| Reading | Chapters 1 and 2 |  | 3 |  |  |
| HW1 | Current event analysis |  | 2 | 30 | 6 days |
| HW2 | Laboratories |  | 3 | 30 | 6 days |
| HW3 | Final research project |  | 1 |  | Week 9 |
| Total W1 |  | 4 | 9 | 60 |  |
| **Week 2** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 2A | Basic network security | 2 |  |  |  |
| Lecture 2B | Securing your network | 1.5 |  |  |  |
| CD | Current events discussion | 0.5 |  |  |  |
| Reading | Chapters 3 and 4 |  | 3 |  |  |
| HW1 | Research project |  | 2 | 30 | 6 days |
| HW2 | Laboratories |  | 3 | 30 | 6 days |
| HW3 | Final research project |  | 1 |  | Week 9 |
| Total W2 |  | 4 | 9 | 60 |  |
| **Week 3** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 3A | Securing hosts and data | 2 |  |  |  |
| CD | Research and Current events discussion | 1 |  |  |  |
| IC Exercise | Quiz 1 | 1 |  |  |  |
| Reading | Chapter 5 |  | 2 |  |  |
| HW1 | Current event analysis |  | 2 | 30 | 6 days |
| HW2 | Laboratories |  | 3 | 30 | 6 days |
| HW3 | Final research project |  | 2 |  | Week 9 |
| Total W3 |  | 4 | 9 | 60 |  |
| **Week 4** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 4A | Malware and social engineering | 2 |  |  |  |
| CD | Research and Current events discussion | 2 |  |  |  |
| Reading | Chapters 6 |  | 2 |  |  |
| HW1 | Research project |  | 2 | 30 | 6 days |
| HW2 | Laboratories |  | 3 | 30 | 6 days |
| HW3 | Final research project |  | 2 |  | Week 9 |
| Total W4 |  | 4 | 9 | 60 |  |
| **Week 5** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 5A | Midterm review | 1 |  |  |  |
| Lecture 5B | Midterm exam | 2 |  | 150 |  |
| CD | Current events discussion | 1 |  |  |  |
| Reading | Chapters 1-6 |  | 8 |  |  |
| Total W5 |  | 4 | 8 | 150 |  |
| **Week 6** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 6A | Identifying advance attacks | 1.5 |  |  |  |
| Lecture 6B | Managing Risk | 1.5 |  |  |  |
| CD | Current events discussion | 1 |  |  |  |
| Reading | Chapters 7 and 8 |  | 3 |  |  |
| HW1 | Current event analysis |  | 2 | 30 | 6 days |
| HW2 | Laboratories |  | 3 | 30 | 6 days |
| HW3 | Final research project |  | 1 |  |  |
| Total W6 |  | 4 | 9 | 60 |  |
| **Week 7** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 7A | Business continuity | 2 |  |  |  |
| CD | Current events discussion | 2 |  |  |  |
| Reading | Chapters 9 |  | 2 |  |  |
| HW1 | Research project |  | 2 | 30 | 6 days |
| HW2 | Laboratories |  | 3 | 30 | 6 days |
| HW3 | Final research project |  | 2 |  |  |
| Total W7 |  | 4 | 9 | 60 |  |
| **Week 8** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 8A | Cryptography | 2 |  |  |  |
| CD | Current events discussion | 1 |  |  |  |
| IC Exercise | Quiz 2 | 1 |  |  |  |
| Reading | Chapters 10 |  | 2 |  |  |
| HW1 | Current event analysis |  | 2 | 30 | 6 days |
| HW2 | Laboratories |  | 3 | 30 | 6 days |
| HW3 | Final research project |  | 2 |  |  |
| Total W8 |  | 4 | 9 | 60 |  |
| **Week 9** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 9A | Exploring Operational Security | 2 |  |  |  |
| Lecture 9C | Re-assessment quiz | 1 |  |  |  |
| CD | Current events discussion | 1 |  |  |  |
| Reading | Chapters 7-11 |  | 9 |  |  |
| HW1 | Laboratories |  | 3 | 30 | 6 days |
| Total W9 |  | 4 | 9 | 30 |  |
| **Week 10** |  |  |  |  |  |
| **Type** | **Topic/Description** | **Lecture Time** | **ELP Time** | **Point Value** | **Due Date** |
| Lecture 10 | Final exam | 1.5 |  | 200 |  |
| IC Exercise | Final Research project presentation | 2.5 |  | 200 |  |
| Total W10 |  | 4 |  | 400 |  |

**Late Submission Policy**

All of your assignments must be completed as scheduled, if a late submission is required a 5 points penalty will be applied for each additional day.

**Course Hours Summary**

|  |  |  |  |
| --- | --- | --- | --- |
| **Session** | **Topic** | **Lecture Time** | **ELP Time** |
| 1 | Security Basics / Control types and methods | 4 | 9 |
| 2 | Basic network security / Securing your network | 4 | 9 |
| 3 | Securing hosts and data | 4 | 9 |
| 4 | Malware and Social Engineering | 4 | 9 |
| 5 | Midterm exam | 4 | 8 |
| 6 | Identifying advance attacks / Managing Risk | 4 | 9 |
| 7 | Business continuity | 4 | 9 |
| 8 | Cryptography | 4 | 9 |
| 9 | Operational security | 4 | 9 |
| 10 | Final exam/ Final research project presentations | 4 | 0 |
| Total | | 40 | 80 |

**Grades for this course**

Your final grade for this course will be based on an assessment by the Instructor of your performance on a number of course activities, which may include objective tests, classroom exercises, laboratory demonstrations, project papers, or other type of activities. The chart below indicates in what activities you will engage, how many possible points can be earned for each activity, and the percentage of your final grade that will be accounted for by each activity.

Students in this course should be graded following Coleman University assessment practices and policies. A point system is used in the University to indicate student performance on various required activities or projects. For this course, it is recommended that points be distributed as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Assignment** | **Possible Points** | **Percentage of Grade** |
| 1 | Current event analysis and discussion | 30 | 3% |
| 1 | Weekly Labs | 30 | 3% |
| 2 | Research project | 30 | 3% |
| 2 | Weekly Labs | 30 | 3% |
| 3 | Current event analysis and discussion | 30 | 3% |
| 3 | Weekly Labs | 30 | 3% |
| 4 | Research project | 30 | 3% |
| 4 | Weekly Labs | 30 | 3% |
| 5 | Midterm exam | 150 | 15% |
| 6 | Current event analysis and discussion | 30 | 3% |
| 6 | Weekly Labs | 30 | 3% |
| 7 | Research project | 30 | 3% |
| 7 | Weekly Labs | 30 | 3% |
| 8 | Current event analysis and discussion | 30 | 3% |
| 8 | Weekly Labs | 30 | 3% |
| 9 | Weekly Labs | 30 | 3% |
| 10 | Final research project and presentation | 200 | 20% |
| 10 | Final exam | 200 | 20% |
| Total | | 1000 | 100% |

**Coleman University Grade Assignment Policy**

The University’s guidelines for the assignment of grades to total points earned is as follows:

|  |  |  |
| --- | --- | --- |
| **Percentage** | **Letter Grade** | **Grade Points** |
| 94-100 | A | 20% |
| 90-93 | A- | 10% |
| 87-89 | B+ | 20% |
| 84-86 | B | 30% |
| 80-83 | B- | 5% |
| 77-79 | C+ | 5% |
| 74-76 | C | 2.0 |
| 70-73 | C- | 1.7 |
| 67-69 | D+ | 1.33 |
| 64-66 | D | 1.0 |
| 60-63 | D- | 0.67 |
| n/a | INC | 0 |
| n/a | W | 0 |
| 60 or above | CR | 0 |
| 59 or below | NC | 0 |
| N/A | I | 0 |
| N/A | W | 0 |
| N/A | AU | 0 |
| N/A | TR | 0 |
| N/A | WV | 0 |

|  |  |
| --- | --- |
| CR = Credit | NC = No Credit |
| I = Incomplete | W = Course Withdrawal |
| AU = Audit | TR = Transfer Credit |
| WV = Waiver |  |

**Expectations for Written Assignments**

**Academic Quality**

Unless explicitly stated otherwise, all written assignments will be submitted in electronic format. This includes the Current Event Analysis, and Weekly and Final Research projects. Students with questions about the quality of their writing style are encouraged to consult the Coleman University Center for Academic Success. Located in Room 232, the CAS is a service available to all Coleman University students to review the grammar and style prior to submission. The CAS has a number of tools available to help students improve their ability to communicate clearly in writing.

Coleman University Students are expected to deliver college level written assignments and they should pay close attention to the Spelling and Grammar Check functions of Microsoft Word ®. In addition, the Coleman University Library Resource section of WebClass includes a version of TurnItIn, which allows students to check their work for plagiarism and grammar errors.

**Scholarly References**

All written assignments will include references to scholarly sources. Scholarly sources include peer-reviewed technical and business journals, papers presented at conferences sponsored by professional organizations (e.g., IEEE, ACM, INCOSE, PMI, etc.), and academic books (i.e., textbooks). Scholarly sources can be found using the EBSCO Host and Harvard Business Review databases available in the Coleman University Library Resource section of WebClass, Google Scholar, plos.org, or the Directory of Open Access Journals. If the option is available in the search engine, please limit your search results to peer-reviewed sources.

The following types of sources WILL NOT be accepted as scholarly resources:

* Commercial Webpages (except those included in Online Supplemental Materials section of this document, or with written approval by instructor)
* Open-source wiki sites such as wikipedia.com, ask.com, about.com, answers.yahoo.com
* Blogs such as wordpress.com, blogspot.com (except those included in Online Supplemental Materials section of this document, or with written approval by instructor)
* Postings from open discussion forums
* White papers published by commercial organizations MAY be considered scholarly references, but tread lightly. Students are encouraged to review the Coleman University presentation regarding evaluation of resources (“CAARBs”) available on the Coleman University Library Resources section of WebClass.

**Class Decorum Requirements**

**Attendance**

Classes begin and end as indicated in the published schedule. It is required that students be present at the beginning of each class session and stay until class is dismissed, including lab periods. Excessive tardiness, leaving early and/or absences (from either lecture or lab sessions) are causes for dismissal from the University. A student that arrives in class beyond 30 minutes late will be considered absent. A student leaving more than30 minutes before the end of class will also be considered absent.

**Conduct**

Students are expected to conduct themselves in a professional manner while on campus. Rules of conduct are outlined in the University Catalog and students are required to adhere to such policies.

**Coleman University Policy on Academic Dishonesty**

Academic dishonesty is cause for dismissal from Coleman University. Presenting another person’s ideas, methods, course work, or test answers with the intention that they be taken as one’s own is theft of a special kind. It defrauds the originator of the work, the institution, its graduates, its students, and its future students.

The student has full responsibility for the authenticity of all academic work and examinations submitted. A student who appears to have violated this policy must submit to a hearing with the reporting instructor and the associate dean. If it is determined that a violation occurred, the matter will be referred to an Officer of the University with recommendations for an appropriate penalty. The student may be dismissed, suspended, or given another penalty.

**Academic Accommodation/Adjustment Policy**

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| In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA), Coleman University offers accommodations to students with documented physical, psychological, and/or cognitive disabilities. Coleman University will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to offer equal educational opportunities to qualified disabled individuals. |
| To qualify for an academic accommodation under ADA, the student must provide adequate documentation of a disability. Students seeking academic accommodations should contact the campus ADA Coordinator at 858-966-3953 or via email at ada@coleman.edu. The ADA Coordinator will review the documentation provided and verify ADA coverage. Students covered under ADA must meet with the ADA Coordinator at the beginning of every term to determine the appropriate academic accommodations. Failing to meet with the ADA Coordinator at the beginning of every term may impact the availability of accommodations. |
| After the academic accommodations have been determined, the students’ instructors will be notified by the ADA Coordinator. If any problems or concerns regarding the provision of accommodations occur, the student must inform the ADA Coordinator. If the student feels accommodation is not being made appropriately, the student may follow the published Student Grievance Procedures. |