CS4320 Computer and Network Security
Fall 2020 Syllabus

Textbook: Boyle, Randall, Raymond Panko, Corporate Computer Security, 4th ed., Prentice Hall, 2015, ISBN 0-13-3545199. See Blackboard for options. In addition, many other resources, such as textbooks and resources from the Internet, will be used.

Instructor: Lopamudra Roychoudhuri
E-mail: lroychoudhuri@angelo.edu
Office: MCS 205E
Campus Phone: (325) 486-5448
Class Times: Section 010 – TR 11:00 am - 12:15 pm, Section 020 – TR 12:30-1:45 pm
Classroom: MCS 114 (see below regarding COVID-19 measures).
Course Web Site: Blackboard
Office Hours: MTWF 3:00-5:00 pm, Office hours will be held on Blackboard Collaborate (preferred), in-person, or on phone.

Precautionary Measures against COVID-19

Split Delivery Model: To maintain academic quality while accommodating social distancing needs this semester, this course will use a split delivery model that combines face-to-face teaching with remote instruction. The goal is to provide face-to-face instruction to students who want to return to campus, while also allowing students who may need to learn remotely to participate via virtual class sessions. If you are not in the physical class, you will attend remote sessions synchronously or asynchronously held on Blackboard Collaborate with recording at the class time.
Social Distancing: When in class, we will abide by the social distancing requirements in our assigned classroom space. A seating chart will be maintained for contact tracing purposes.
Masks: when in MCS114, masks covering both nose and mouth are mandatory for all students.
Wipes: will be provided for everyone to wipe down the keyboards and other surfaces before class starts.
Daily Wellness Screening: please fill this first thing every morning.

Please refer to this Health and Safety web page for updated information about campus guidelines as they relate to the COVID-19 pandemic.

Prerequisite:
None.

Course Objectives:
This course provides an in-depth look at the security risks and threats to an organization's electronic assets, and an overview of components used in an enterprise security infrastructure. The course focuses on the topics of threat environment, security policy and planning, cryptography, secure networks, access control, application security and data protection. Topics will include theoretical background, as well as practical techniques to secure an enterprise network. The course provides demonstrations and exercises on various offensive and defensive security concepts.
Student Learning Goals:
Students who successfully complete this course will have the ability to:

1. Demonstrate understanding of network security terminology and concepts,

2. Demonstrate understanding of security technology and devices, acquired by hands-on experience on threats to computers and networks, and measures of security defense,

3. Apply security principles to business scenarios,

4. Discuss current ethical issues involved in network and computer security,

5. Research topics, solve problems and create solutions in a seminar environment,

6. Deliver a team project that will allow the student to study some aspect of the "real world" computer and network security in detail beyond what is covered in class.

Grading:

<table>
<thead>
<tr>
<th>Grading Criteria</th>
<th>Dates</th>
<th>Weights</th>
<th>Goals Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Daily/Weekly/biweekly</td>
<td>30%</td>
<td>1 thru 4</td>
</tr>
<tr>
<td>Project</td>
<td></td>
<td>35%</td>
<td>5 thru 6</td>
</tr>
<tr>
<td>Exam 1</td>
<td>9/22/20</td>
<td>15%</td>
<td>1 thru 4</td>
</tr>
<tr>
<td>Exam 2</td>
<td>11/10/20</td>
<td>20%</td>
<td>1 thru 4</td>
</tr>
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GRADE PERCENT

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 – 100</td>
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<tr>
<td>B</td>
<td>80 – 89</td>
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<tr>
<td>C</td>
<td>70 – 79</td>
</tr>
<tr>
<td>D</td>
<td>60 - 69</td>
</tr>
<tr>
<td>F</td>
<td>0 - 59</td>
</tr>
</tbody>
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Week by week tentative schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/18, 8/20</td>
<td>Module 1: Threats and Defense Planning</td>
</tr>
</tbody>
</table>
| 2    | 8/25, 8/27 | Module 1: Threats and Defense Planning cont.; Module 2: Networking Recap, *Project topics of interest list due – 8/27*
<p>|      |            | <em>Write up on topics of interest due- 9/3</em>                             |
| 3    | 9/1, 9/3   | Module 2: Networking Recap cont., <em>Write up on topics of interest due- 9/3</em> |
| 4    | 9/8, 9/10  | Module 2 cont., <em>Project topic selection per team – 9/10</em>             |
| 5    | 9/15, 9/17 | <em>Exam 1 on 9/15; Module 3: Offensive Security - Malware, Scanning</em>     |
|      |            | <em>Project proposal due – 9/17</em>                                         |
| 6    | 9/22, 9/24 | Module 3: Malware, Scanning cont.                                     |
| 7    | 9/29, 10/1 | Module 4: Offensive Security – Denial of Service                      |
| 8    | 10/6, 10/8 | Module 4: Offensive Security – Denial of Service cont.                |
| 9    | 10/13, 10/15 | Module 5: Defensive Security at Link Layer, Switch Security;         |
| 10   | 10/20, 10/22 | Module 5: Switch Security cont.; <em>Interim project report due – 10/22</em> |
| 11   | 10/27, 10/29 | Module 6: Defensive Security at Transport &amp; Application              |</p>
<table>
<thead>
<tr>
<th></th>
<th>Section 010 – 11/21 (Sat) 10:30 am-12:30 pm Section 020 – 11/24 (Tue) 10:30 am-12:30 pm</th>
<th>Layers - Cryptographic Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>11/3, 11/5</td>
<td>Module 6 cont.</td>
</tr>
<tr>
<td>13</td>
<td>11/10, 11/12</td>
<td>Module 7: Defensive Security at Network Layer - Firewalls</td>
</tr>
<tr>
<td>14</td>
<td>11/17, 11/19</td>
<td>Exam 2 on 11/17; Module 7 cont.</td>
</tr>
<tr>
<td>15</td>
<td>Project presentations; project reports due</td>
<td></td>
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</tbody>
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Class Policies:

TEAMS
We will form teams of 2 or 3. The teams will be chosen on the first day of class and will be maintained till the end of semester.

CLASS STRUCTURE AND ASSIGNMENTS

- **Flipped Classroom:** Videos and readings from the textbook and/or other sources will be announced prior to every class session. You will complete reading and watching these videos **before** class. We will work on many kinds of assignments in class based on this material.

- **Quizzes:** We will work on quizzes that will validate the reading and videos. The grade from the quizzes will constitute 10% of the total grade.

- **Assignments:** these fall in three categories:

  - **In-class Assignments:** We will discuss topics in class and work on assignments. You will be able to collaborate with your fellow students, maintaining social distancing of course, in order to complete these. Assignments that cannot be completed in class will be taken out-of-class and turned in. The grade from these assignments will constitute 20% of the total Assignment grade.

  - **Homework Assignments:** the purpose of the homework assignments is to give you individual out-of-class practice on the topics that you are learning, and to explore some ideas more deeply. The grade from the homework assignments will constitute 50% of the total Assignment grade.

  - **Short Presentations:** You may research on announced topics individually or in your team and present your findings. You will also submit a PowerPoint presentation. The grade from the presentation assignments will constitute 20% of the total assignment grade.

- **All assignments, unless otherwise specified, must be submitted to Blackboard containing your name, course name, the title of the assignment and the due date.**

- **No late assignment will be accepted. No e-mail or in-person submission is accepted.** There are no exceptions to this rule.
• All homework assignments should be the work product of each individual. Cheating occurs when a student either submits work for a grade that is not entirely due to his/her own effort or allows others to use her/his work. Cheating occurs when a student submits work product that is copied from another student. Cheating on an assignment or exam will result in a failing grade for the course. No student shall look towards the work of any other student during exams as it shall be construed as cheating.

• **Academic Honor Code:** Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at [Academic Honor Code](#) in [Student Handbook](#). You should familiarize yourself with it. If a student violates this policy in any way, the student may receive a sanction of failure on the assignment/exam or failure in the course. If you have questions about appropriate citations, please ask.

**TEAM PROJECT**

Each team will select a topic that will allow the group to study some aspect of the "real world" security topic in detail beyond what is covered in class. The outcome of the project will be a project report as well as a class presentation in the final's week. You will submit your own report that clearly shows your contributions to the project. Each team will prepare a 15-to-20-minute presentation and answer related questions.

**EXAMS**

*We will have two exams. All students must take both exams at the scheduled times.*

Exams will be held in MCS 114 classroom on Respondus Lockdown Browser for in-class students. Students attending from remote will take their the exams on their personal computers on Respondus Lockdown Browser, with their cameras turned on for Respondus Monitor. Respondus requires a desktop computer or laptop (not a Chromebook) and a webcam. For best results, use an Ethernet cable to connect to your Internet source instead of relying on Wifi. Refer to the Blackboard Technology Support page for Respondus installation instructions.

There are no makeup exams. Only exception will be student absence for observance of religious holy day (see below).

**ATTENDANCE**

Attendance is mandatory (*no excused absences*) and roll will be taken.

**GRADEBOOKS**

During the semester, you are expected to monitor your performance on assignments and exams by accessing your grades online. It is your responsibility to: (1) ensure that correct entries have been made into the gradebook, and (2) be aware of your performance in the class. Grade percentages are shown on this syllabus so you can compute your own grade standing as the semester progresses.
E-MAIL
You are required to use your Angelo State email account for communicating with me. Check your email frequently for announcements and policy changes. If you have any question about the course or need assistance, please contact me by e-mail at any time. I shall reply within 24 hours. Include the course name and section number in your subject line in your emails to me.

LAB POLICY
No food or drinks are allowed in the lab.

General Policy Statements

Add/Drop Dates
Students may add this course up to August 20, 2020.
Students may drop this class or withdraw from the university until November 10, 2020.

Accommodations for Students with Disabilities
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Student Absence for Observance of Religious Holy Day
1. “Religious holy day” means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20.
2. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.
3. A student excused under sec. 2 may not be penalized for absence; however, the instructor may respond appropriately if the student fails to complete assignments satisfactorily.
Title IX at Angelo State University
The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

Required Use of Masks/Facial Coverings by Students
As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Modifications to the syllabus
The instructor and the university reserve the right to modify or change the syllabus (schedule, course requirements, grading policy, etc.) as the curriculum and/or program require(s).

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[i] https://www.angelo.edu/covid-19/returning-to-campus/health-and-safety.php
https://www.angelo.edu/student-handbook/
https://www.angelo.edu/services/disability-services/
https://www.angelo.edu/services/title-ix/