Cyber Security: COSC 2360  
School of Engineering and Computer Science  
Fall 2020

A. COURSE INFORMATION

Course number/section: COSC 2360.001  
Class meeting time: Online  
Class location: Online  
Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Dr. N. Etezady  
Office location: CI-327  
Office hours: Online: T 9:00 am -12:00 pm, W 9:00 am – 11:00 am  
Telephone: 561-825-3622  
e-mail: netezady@tamucc.edu  
Appointments: By e-mail

C. COURSE DESCRIPTION

Catalog Course Description
This course introduces students to cyber security. A broad range of cyber security issues will be covered, including social engineering attacks, secure coding, computer security, Internet of Things (IoT) security, mobile security, data security, network security, physical security and forensics. This course will cover the concepts of prevention, detection, and response to cyber security threats.

Extended Course Description
None

D. PREREQUISITES AND COREQUISITES

Prerequisites
COSC 1435 - Introduction to Problem Solving with Computers I

Corequisites
None

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s):
Optional Textbook(s) or Other References:
None

Supplies
None

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Understand cyber security issues as it relates to computer security, Internet of things security, mobile security, data security and network security
2. Be able to identify different types of social engineering attacks
3. Understand secure code practices
4. Understand the techniques used for attack prevention, detection and response
5. Understand the tools available for forensic analysis

Assessment of objectives will be conducted through exams, quizzes and homework assignments.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

This is a difficult course that demands all students attend all classes! Regular completion of all reading, homework, and other outside assignments, are absolutely essential for success in this course.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Your course grade will be decided on your performance in the homework assignments, quizzes, and exams. The distribution of points is as follows:

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
</tr>
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<tbody>
<tr>
<td>Exam 1</td>
<td>20</td>
</tr>
<tr>
<td>Exam 2</td>
<td>20</td>
</tr>
<tr>
<td>Exam 3</td>
<td>20</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>30</td>
</tr>
</tbody>
</table>

Grading scale: A: 100-90, B: 89-80, C: 79-70, D: 69-60, and F: 59-0.
Homework Assignments: Approximately 8-10 homework assignments will be given. No late homework assignments will be accepted. Partial credit will be given for incomplete assignments. In addition, there may be a pop quiz from time-to-time.

Quizzes: Approximately 8-10 pop-up quizzes (dropping one or two) will be given. Each quiz is about 10 minutes long.

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction Cyber to security</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>Security definition and terminology</td>
<td>1</td>
<td>HW 1</td>
</tr>
<tr>
<td>Week 3</td>
<td>Computer security – User Authentication</td>
<td>3</td>
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<tr>
<td>Week 4</td>
<td>Computer security – Access Control</td>
<td>4</td>
<td>HW 2</td>
</tr>
<tr>
<td>Week 5</td>
<td>Network Security-Internet Security</td>
<td>22</td>
<td></td>
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<tr>
<td>Exam 1</td>
<td></td>
<td></td>
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<tr>
<td>Week 6</td>
<td>Network Security-Wireless Networks</td>
<td>24</td>
<td>HW 3</td>
</tr>
<tr>
<td>Week 7</td>
<td>Network Security-Wireless/Mobile Devices</td>
<td>24</td>
<td>HW 4</td>
</tr>
<tr>
<td>Week 8</td>
<td>Data Security – Database &amp; Data Center</td>
<td>5</td>
<td></td>
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<tr>
<td>Week 9</td>
<td>Data Security - Malicious Software</td>
<td>6</td>
<td>HW 5</td>
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<tr>
<td>Exam 2</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Week 10</td>
<td>Cloud and IoT security</td>
<td>13</td>
<td>HW 6</td>
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<tr>
<td>Week 11</td>
<td>Software Security</td>
<td>11</td>
<td></td>
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<tr>
<td>Week 12</td>
<td>Software Security &amp; Secure coding</td>
<td>11</td>
<td>HW 7</td>
</tr>
<tr>
<td>Week 13</td>
<td>Physical Security, Forensics tools</td>
<td>16</td>
<td>HW 8</td>
</tr>
<tr>
<td>Week 14</td>
<td>Forensics tools</td>
<td></td>
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<tr>
<td></td>
<td>Final Exam</td>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

COVID-19

Face Coverings—Face coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Extra masks will be made available if needed.
duration of labs due to the close interactions. Extra masks will be made available if needed.

**Attendance/Tardiness**
Success in this course depends on your attendance and participation. Attendance and active participation is included as part of your grade and are essential to successfully completing this course.

**Late Work and Make-up Exams**
Late work penalty: 25% if one day late; 50% if two days late; zero credit if more than two days.

No makeup exam without adequate doctor's excuse explaining your absence. Makeup exams will not be the same exam. If for any reason you have a conflict you must see me as soon as you know about the conflict!

**Cell Phone Use**
Please refrain from the use of electronic devices during class, as it is distracting to not only you, but also to your instructor and peers. Turn off all cell phones and beepers when you enter the classroom!

**Laptop Use**
Please refrain from the use of electronic devices during class, as it is distracting to not only you, but also to your instructor and peers. Laptops will be permitted for particular activities as deemed appropriate. No electronic devices are allowed during exam time.

**Food in Class**
No food is allowed.

**K. COLLEGE AND UNIVERSITY POLICIES**

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit
from the instructional program may be considered a breach of the peace and is subject
to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students
engaging in unacceptable behavior may be instructed to leave the classroom. This
prohibition applies to all instructional forums, including classrooms, electronic
classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents
  the population of the state. Our goal is to provide you with a high quality educational
  experience that is free from repression. You are responsible for following the rules of
  the University, city, state and federal government. We expect that you will behave in a
  manner that is dignified, respectful and courteous to all people, regardless of sex,
  ethnic/racial origin, religious background, sexual orientation or disability. Behaviors
  that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
  I hope that you never find it necessary to drop this or any other class. However, events can
  sometimes occur that make dropping a course necessary or wise. Please consult with your
  academic advisor, the Financial Aid Office, and me, before you decide to drop this course.
  Should dropping the course be the best course of action, you must initiate the process to drop the
course by going to the Student Services Center and filling out a course drop form. Just stopping
attendance and participation WILL NOT automatically result in your being dropped from the class.
Please consult the Academic Calendar ([http://www.tamucc.edu/academics/calendar/](http://www.tamucc.edu/academics/calendar/)) for the last
day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C0.03, Student Grade Appeal Procedures, a
  student who believes that he or she has not been held to appropriate academic standards as
  outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may
  appeal the final grade given in the course. The burden of proof is upon the student to
demonstrate the appropriateness of the appeal. A student with a complaint about a grade is
required to first discuss the matter with the instructor. For complete details, including the
responsibilities of the parties involved in the process and the number of days allowed for
completing the steps in the process, see University Procedure 13.02.99.C0.03, Student
Grade Appeal Procedures. These documents are accessible through the University Rules
website
  at [http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_gra
de_appeals.pdf](http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf). For assistance and/or guidance in the grade appeal process, students may
contact the chair or director of the appropriate department or school, the Office of the
College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that
provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

http://disabilityservices.tamucc.edu/

- **Civil Rights Complaints**
  Texas A&M University-Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz (Rosie.Ruiz@tamucc.edu) x5826, or visit website at Title IX/Sexual Assault/Pregnancy.

**Limits to Confidentiality.** Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, are not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition,
the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

- Academic Advising
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.