Network Security COSC 3466  
Computer Science  
Spring 2020

A. COURSE INFORMATION

Course number/section: COSC 3466-001  
Class meeting time: MW 2:00-3:15 PM  
Class location: CI 230  
Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Dr. Saman Desilva  
Office location: CI 230  
Office hours: TR 12:30 -2:00 PM, MW 12:00- 1:00 PM  
Telephone: 361-825-3831  
E-mail: saman.desilva@tamucc.edu  
Appointments: By e-mail

C. COURSE DESCRIPTION

Catalog Course Description
This course is a laboratory-based course that focuses on the standards and technologies used to secure local area network security. Topics include the TCP/IP and open system interconnection (OSI) models, routing, network security threats, securing network devices, authentication, authorization, and accounting, implementing firewall technologies, cryptographic systems, implementing virtual private networks, implementing the cisco adaptive security appliance. Device configuration will be examined and evaluated with appropriate laboratory exercises.

D. PREREQUISITES AND COREQUISITES

Prerequisites
COSC 2366

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)

Please note, text books are required in class and cell phones, laptops and tablet like devices are not allowed during class.
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. Secure networking devices
2. Implement authentication, authorization, and accounting services
3. Implementing firewall technologies
4. Work with cryptographic systems
5. Implement virtual private networks

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Instructional methods will consist of lectures, in class exercises and homework assignments.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Student learning outcomes will be measured through the use of homework assignments, exams, and quizzes if necessary. Grading scale: A: 100-90, B: 89-80, C: 79-70, D: 69-60, and F: 59-0.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exams</td>
<td>50</td>
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<tr>
<td>Quizzes</td>
<td>10</td>
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<tr>
<td>Assignments/Labs</td>
<td>40</td>
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## I. COURSE CONTENT/SCHEDULE

Tentative Course Schedule (Subject to change)

<table>
<thead>
<tr>
<th>Week 1:</th>
<th>Chapter 1: Introduction to Security</th>
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<tbody>
<tr>
<td>Week 2:</td>
<td>Chapter 2: Malware and Social Engineering Attacks</td>
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<tr>
<td></td>
<td>HW 1</td>
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<tr>
<td>Week 3:</td>
<td>Chapter 3: Application and Networking-Based Attacks</td>
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<td>HW 2</td>
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<tr>
<td>Week 4:</td>
<td>Chapter 4: Host, Application, and Data Security, ASN1</td>
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<td>Exam 1</td>
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<tr>
<td>Week 5:</td>
<td>Chapter 5: Basic Cryptography, ASN2</td>
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<td>HW 3</td>
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<tr>
<td>Week 6:</td>
<td>Chapter 6: Advanced Cryptography, ASN3</td>
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<td>HW 4</td>
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<tr>
<td>Week 7:</td>
<td>Chapter 7: Network Security Fundamentals, ASN4</td>
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<td>HW 5</td>
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<tr>
<td>Week 8:</td>
<td>Chapter 8: Administering a Secure Network,</td>
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<td><strong>03/09/19 to 03/13/19 Spring Break</strong></td>
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<tr>
<td>Week 9:</td>
<td>Chapter 8: Administering a Secure Network, ASN5</td>
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<td>HW 6</td>
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<td>Week 10:</td>
<td>Chapter 9 Wireless Network Security, ASN6</td>
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<td>HW 7</td>
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<td>Week 11:</td>
<td>Chapter 10: Mobile Device Security</td>
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<td>HW 8</td>
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<td>Week 12:</td>
<td>Chapter 11: Access Control Fundamentals, ASN7</td>
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<td>HW 9</td>
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<tr>
<td>Week 13:</td>
<td>Chapter 12: Authentication and Account Management, ASN8</td>
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<td><strong>Exam 3 (04/11/2019)</strong></td>
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<tr>
<td>Week 14:</td>
<td>Chapter 13: Business Continuity, ASN9</td>
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<td>HW 10</td>
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<tr>
<td>Week 15:</td>
<td>Chapter 14: Risk Mitigation, ASN10</td>
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<td><strong>Final Exam on Tuesday, May 07, 2018 from 4:30 PM - 7:00 PM</strong></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

Course Syllabus:
We will meet in lecture on Tuesday and Thursday, when new material will be presented. Non-text material may also be included in the lectures. The assignments, quizzes, and exams will be given during the class hours. You are responsible for all the material presented during the lecture.

Exams:
Exams will cover all lecture, assignments, quizzes and reading material. Exams must be taken on the hour they are scheduled. In the event, if you cannot attend the class to take the exam due to some emergency or some unavoidable situation (such as serious illness, death in the family, participation in university sports, religious observations, and so on) you must notify me as soon as possible before the exam and also you must validate your absence by providing me a document (e.g., with a letter from your doctor).

Labs, Homework Assignments, and Quizzes:
Approximately 10-117 labs assignments will be given. Homework assignments and quizzes may be given in-class or outside of class. Quizzes can not be made up. Partial credit will be given for incomplete assignments. In addition, there may be a quiz from time-to-time. They will significantly be based on the material from the lectures and other material considered essential for the successful completion of this course. They will be handed out in the class during the lecture. The submission details will be provided to you along with the assignment. All the homework assignments are due at the beginning of the class on the due date. If the student is absent on the due date, it is the student’s responsibility to see to it that the assignment is submitted on the designated date. An assignment that is turned in after the class on the due date is considered one day late. There is a penalty for late submissions. 10% penalty for 1-2 days late. 25% penalty for 3-4 days late. 75% penalty for 5 days late. 100% penalty (i.e. no credit) if submitted after 5 days. If you have not completed your assignment by the due date, you should submit the work you have done for partial credit. No work will be accepted once the graded work has been returned or the solution has been disclosed to the class, except for unusual circumstances which the instructor feels reasonable. Be sure to backup your work. Note that any kind of hardware or software failure or machine unavailability in the lab does not merit an extension on the assignment. Diskettes upon which major examinations, assignments, projects or papers submitted may be retained by the instructor as a permanent record of the student’s work.
LABs:

Grading Error:
All questions concerning a test score or grading of a returned test or assignment must be resolved within one week. It is always a good idea to keep all of your work until the end of the semester. In case of any recording errors or doubts, you may produce them for correction or verification.

Attendance:
You must attend all classes. In class attendance will affect your grade. You are
responsible for any materials covered or handed out or announcements made for the
tests, homework assignments in your absence. Records of your attendance will be
maintained and reported to the university. Students found missing classes without the
instructor’s permission will be automatically withdrawn from the course.

Absence from class:
Students are responsible for all materials covered in class and assigned. Should a
student be absent from class, it is his/her responsibility to get the notes, etc. for that
missed class. More important, should there be assignments, it is the student
responsibility to obtain such assignments. No excuse will be accepted for assignments
not turned in because the student was absent when it was due.

Other Policies:
Cell phones and computers must be turned off during class. Audio and video recording
of any kind is not permitted in the classroom. First violation receives a warning. All
succeeding violations result in a ten point deduction off the final exam. Any violation
during a quiz or exam results in a ten percent deduction off the corresponding paper. No
warnings for quizzes or exams.

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/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, 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 encouraged 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.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. 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/

- **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.

**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.