COURSE DATES, MODALITY, AND LOCATION
This is a blended course, which meets Wednesdays Face to Face and Mondays online. The online course contents will be made available using the TAMUCT Canvas Learning Management System: [https://tamuct.instructure.com]. All announcement regarding homework assignments, class tests, midterm/final exams will be posted in Canvas. Students are expected to access Canvas course page regularly (multiple times in a week) to get any update regarding this course. They can also install Canvas student app on their phone.

INSTRUCTOR AND CONTACT INFORMATION
Instructor: Abhijit K Nag, Ph.D.
Office: FH 323I
Phone: (254) 519-5933(COBA office)
Email: Canvas Inbox. If Canvas is not available, email: aknag@tamuct.edu

Office Hours:
Monday 2:00 pm –3:30 pm (virtually via WebEx or MS Teams). I am also available for students on an appointment basis. Send me an email (aknag@tamuct.edu) to schedule an appointment to meet.

Mode of instruction and course access:
This is a blended course, which meets Wednesdays Face to Face and Mondays online. The online course contents will be made available using the TAMUCT Canvas Learning Management System: [https://tamuct.instructure.com]. All announcement regarding homework assignments, class tests, midterm/final exams will be posted in Canvas. Students are expected to access Canvas course page regularly to get any update regarding this course. They can also install Canvas student app on their phone.

Student-instructor interaction:
Students are encouraged to send all course-related correspondence to Canvas email message. Students can meet me at regular office hour (mentioned above) or by appointment to discuss any course related issues.
Warrior Shield:
Emergency Warning System for Texas A&M University-Central Texas
Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by 911Cellular [https://www.tamuct.edu/police/911cellular.html] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.

COURSE INFORMATION
Course Overview and description:
Studies the issues of Network and Systems Security as a continuous process involving analysis, implementation, evaluation and maintenance. Topics will include addressing computer-related risks, case analysis, and future trends. The course will provide approaches, techniques, and best practices for securing modern electronic data systems and networks. Areas covered include information and message security, database and file integrity, physical security, security management, security risk analysis, and encryption/cryptography. Will include practical laboratories in the analysis, and configuration of networking security protocols and tools.
Prerequisites: CIS 3347 or approval of Department Chair.

Course Objective:
Student Learning Outcomes:
Students taking this course will able to understand the common threats of computing resources, how to detect and prevent those threats in today's computing systems, what are the techniques hackers used to compromise security, how to encrypt message while sending over the communication network.

Competency Goals Statements (certification or standards): None
Required Reading and Textbook(s):

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.
Supplemental Material: The course textbook will be supplemented with other materials including handouts, oral presentations, software demonstration, PowerPoint presentations, etc.

COURSE REQUIREMENTS
Course Requirements:
Students are required to complete one midterm exam, one final exam, four class tests and five
homework assignments/lab assignments. The topic of all exams and class tests will be declared in the class. Class attendance is required for this course and will count towards class participation points.

In this course, we will be using Virtual Box to launch Windows 10 OS on Windows/Linux machine. Detail instruction how to download the Windows 10 ISO file from Microsoft Azure and your credentials to access the account will be announced in the class.

Students are required to have a portable hard drive (with USB 3.0 port) (at least 300 GB free space available) to store the Windows 10 image. If you use your own laptop, you need to install Virtual Box software to create the virtual machines. You are required to bring the image for lab assignments during class meeting times or do the lab in online environment.

**Class Tests**
There will be four class tests for this course. The class tests will be conducted online through Canvas course website under Quiz section. Each class test will be worth 60 points.

**Exams**
There will be one midterm and one final exam. The midterm exam will contain 200 points, and the final exam will contain 200 points. The final exam will NOT be comprehensive for this course.

**Assignments**
Five assignments (homework and lab assignments) will be given to the students. The due dates of these assignments will be posted in canvas portal. Each assignment will be worth 60 points.

**Class Participation**
Attending the course lectures in mandatory for this course. Total class participation is worth 60 points.

**Grading Criteria Rubric and Conversion**
The distribution of points for various student activities and the grading scheme are mentioned below:

<table>
<thead>
<tr>
<th>Student Activity</th>
<th>Quantity</th>
<th>Points</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Tests</td>
<td>4</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>Assignments</td>
<td>5</td>
<td>60</td>
<td>300</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>1</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Class Participation</td>
<td></td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Point Range</th>
<th>Letter Grade</th>
</tr>
</thead>
</table>

Posting of Grades
All students’ grade will be posted on the Canvas Grade book, and students can monitor their progress in this course using Canvas Portal. Students can expect to see their grades within two weeks of the closing of class tests, exams, and assignments. Students are expected to visit Canvas course webpage regularly to get any update regarding this course.

COURSE OUTLINE AND CALENDAR
Complete Course Calendar
The Tentative course outline is mentioned below. The announcement dates may change depending on the pace of the course, lab assignments and overall student learning. All assignments, class tests, midterm and final exam due dates will be announced in the class.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8-23</td>
<td>Introduction to Course/ Syllabus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-25</td>
<td>Introduction to Computer Security, Concepts, and Approaches</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8-30</td>
<td>Introduction to Computer Security, Concepts, and Approaches</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9-01</td>
<td>Networks and The Internet</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9-06</td>
<td>Networks and The Internet</td>
<td>Assignment 1</td>
</tr>
<tr>
<td></td>
<td>9-08</td>
<td></td>
<td>Class Test 1</td>
</tr>
<tr>
<td>4</td>
<td>9-13</td>
<td>Cyber Stalking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9-15</td>
<td>Cyber Fraud and Abuse</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9-20</td>
<td>Denial of Service</td>
<td></td>
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<tr>
<td></td>
<td>9-22</td>
<td>Malware</td>
<td>Assignment 2</td>
</tr>
<tr>
<td>6</td>
<td>9-27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9-29</td>
<td>Ethical Hacking Techniques</td>
<td>Class Test 2</td>
</tr>
<tr>
<td>7</td>
<td>10-04</td>
<td>Encryption/ Decryption Techniques</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>10-11</td>
<td>Hashing, Salting, Steganography, Cryptanalysis</td>
<td>Midterm</td>
</tr>
<tr>
<td></td>
<td>10-13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>10-18</td>
<td>Firewalls, Antispyware, IDS, WIFI security</td>
<td>Assignment 3</td>
</tr>
<tr>
<td></td>
<td>10-20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10-25</td>
<td>Security Policies, Access Control, Disaster Recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>11-01</td>
<td>Data Classification, Important Laws</td>
<td>Class Test 3</td>
</tr>
<tr>
<td></td>
<td>11-03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>11-08</td>
<td>Various Authentication Approaches</td>
<td>Assignment 4</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
<td>Assignment</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>11</td>
<td>10</td>
<td>including MFA, 2FA and continuous authentication</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>11-15</td>
<td>Network Scanning and Vulnerability Scanning</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>11-16</td>
<td>Assignment 5</td>
<td>Class Test 4</td>
</tr>
<tr>
<td>15</td>
<td>11-24</td>
<td>Operating System Security, Database and file security</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>12-01</td>
<td>Final Exam Overview</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>12-08</td>
<td>Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTOR POLICIES**

**Policies related to grading**

- All the assignments must be submitted before the posted deadline in Canvas Course Website unless arrangements are made beforehand (at least 48 hours before the deadline and the students need to send an email explaining the situation and providing necessary documentation).
- Assignments and class tests posted before midterm exam **CANNOT** be completed/submitted after the midterm exam.
- Assignments more than 48 hours late are subject to 20% late penalty.
- Requests for *Incomplete grades*:
  - Incompletes will only be given in emergency or other extreme circumstances. Any request for an incomplete grade in this course must be approved by the course professor prior to December 01, 2021. Where possible, requests should be submitted in written form with reasons and must include an address and/or telephone number where you may be contacted throughout the following semester.
  - For a request of an incomplete grade to be considered, at least 70% of the total course work (700 points) have to be completed.
  - Finally, approval of an incomplete grade (I) is up to the department chair and college Dean, not only to the course instructor.

**Instructor’s Personal Statement**

- The instructor reserves the right to modify the course syllabus during the semester for the benefit of the students.
- The instructor reserves the right to supplement materials presented in the text with additional course material that may help the students to understand the topic better.
- The instructor reserves the right to modify grading policy rubrics. Any Change to grading rubrics will be applied to current and possible future assignments.
- The instructor will not accept any pending course assignments after December 07, 2021 in the Fall 2021 semester.
Important University Dates:
Please visit the following link to access 2022-2023 academic calendar:
https://www.tamuct.edu/registrar/academic-calendar.html

TECHNOLOGY REQUIREMENTS AND SUPPORT
Technology Requirements
This course will use the A&M-Central Texas Instructure Canvas learning management system.

We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.
Logon to A&M-Central Texas Canvas [https://tamuct.instructure.com].
   Username: Your MyCT username (xx123 or everything before the "@" in your MyCT e-mail address)
   Password: Your MyCT password

Canvas Support
Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select “Chat with Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953.
For issues related to course content and requirements, contact your instructor.

Online Proctored Testing
A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

Other Technology Support
For log-in problems, students should contact Help Desk Central.
24 hours a day, 7 days a week:
   Email: helpdesk@tamu.edu
   Phone: (254) 519-5466
   Web Chat: [http://hdc.tamu.edu]
Please let the support technician know you are an A&M-Central Texas student.

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES
Drop Policy
If you discover that you need to drop this class, you must complete the Drop Request Dynamic Form through Warrior Web.
[https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d-46928168bc10&targetUrl=https%3A%2F%2Fdynamicforms.ngwebsolutions.com%2FSubmit%2FForm%2FStart%2F53b8369e-0502-4f36-be43-f02a4202f612].
Faculty cannot drop students; this is always the responsibility of the student. The Registrar’s Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar’s Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar’s Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

**Academic Integrity**

Texas A&M University -Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student’s academic performance and includes, but is not limited to, working with others in an unauthorized manner, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student’s work, collusion, and the abuse of resource materials. All academic misconduct concerns will be referred to the university’s Office of Student Conduct. Ignorance of the university’s standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more information regarding the Student Conduct process, [https://www.tamuct.edu/student-affairs/student-conduct.html].

If you know of potential honor violations by other students, you may submit a report, [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

**Academic Accommodations**

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Office of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the university’s programs, services and activities. If you believe you have a disability requiring reasonable accommodations please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information please visit our Access & Inclusion Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

**Important information for Pregnant and/or Parenting Students**

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of
Education’s Office of Civil Rights, the Dean of Student Affairs’ Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit Student Affairs [https://www.tamuct.edu/student-affairs/index.html]. Students may also contact the institution’s Title IX Coordinator. If you would like to read more about these requirements and guidelines online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University’s Title IX Coordinator.

**Tutoring**

Tutoring is available to all A&M-Central Texas students, on a remote online basis. Visit the Academic Support Community in Canvas to view schedules and contact information. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors will return at the Tutoring Center in Warrior Hall, Suite 111 in the Fall 2020. Student success coaching is available online upon request.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, success coaching, or have any other question, contact Academic Support Programs at (254) 501-5836, visit the Office of Student Success at 212F Warrior Hall, or by emailing studentsuccess@tamuct.edu.

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.

**University Writing Center**

The University Writing Center (UWC) at Texas A&M University–Central Texas (TAMUCT) is a free service open to all TAMUCT students. For the Fall 2020 semester, all services will be online as a result of the COVID-19 pandemic. The hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday with satellite hours online Monday thru Thursday from 6:00-9:00 p.m. The UWC is also offering hours from 12:00-3:00 p.m. on Saturdays.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. By providing a practice audience for students’ ideas and writing, our tutors highlight the ways in which they read and interpret students’ texts, offering guidance and support throughout the various stages of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. Whether you need help
brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via WCONline [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC and/or need any assistance with scheduling.

University Library

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 250,000 eBooks and 82,000 journals, in addition to the 85,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our Library website [http://tamuct.libguides.com/index].

For Fall 2020, all reference service will be conducted virtually. Please go to our Library website [http://tamuct.libguides.com/index] to access our virtual reference help and our current hours.

OPTIONAL POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student
Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don’t agree with their behaviors and tell survivors we will support them. Your actions matter. Don’t be a bystander; be an agent of change. For additional information on campus policy and resources visit the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html).

**Behavioral Intervention**

Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. You can complete the [referral](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2) online.

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](https://www.tamuct.edu/student-affairs/bat.html) website for more information. If a person’s behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5800.