



Department of Computer Science

**ACST 4620 – Computer Security (CompSec)
Course Syllabus**

Instructor	Dr. Sarah M. North, Instructor Email: snorth@kennesaw.edu Cell: 678-520-6102 Office: 470-578-7774 Office: Kennesaw Campus (Chastain Pointe 206 J) Office hours: MW 2:00pm - 3:30pm <i>Other hours will be on-line via D2L and/or by appointment only</i>
Class Design	This course will be delivered in an online delivery mode with lectures video recording (.mp4) via D2L, laboratory activities, assignments, assessments, and supported resources. An online course can offer opportunities for students to pursue their educational objectives when attending school with a different delivery method (Online) than the traditional in-class method. Specifically, this course will be delivered by online lectures with supporting research project, presentation, and examination. All lecture notes will be installed and available via KSU D2L Brightspace learning management system http://d2l.kennesaw.edu/ . Student-centered learning Variety of online student-centered learning tools will complement individual student learning styles and help students become more versatile learners. Collaborative learning Online group work allows students to become more active participants in the learning process. Contributing input requires that students comprehend what is being discussed, organize their thinking coherently, and express that thinking with carefully constructed language.
Textbook & Resources	<u>Required:</u> Computer Security Fundamentals: Computer Security Fundamentals, 2/Edition , William (Chuck) Easttom, II. (2012, Pearson Education Company), ISBN-13:9780789748904 <i>Research resources:</i> e-Research Textbook- How to Build Skills in Research
Prerequisite	Undergraduate Semester level course of ACST 3510 Computer Architecture and Robotics or ACST 3530 Linux Operating Systems- Minimum Grade of C http://cs.kennesaw.edu/academics/undergraduate/bscs.html
Course Description	This course covers basic concepts and practices in computer and network security. This includes topics such as cryptography, authentication, authorization, secure protocols and principles for developing secure software. Applications will include using security frameworks to develop software and configuring security support systems.

Turnaround Time on Assignments/ Assessments	All in-class and online assignments and assessments will be graded and posted within a week after the due dates.
Response Time to Emails and Voicemails	I will respond to all emails and voicemails within 24 hours on weekdays and 48 hours on weekends.
Tracking Learning Progress	Students have continuous opportunities to track their learning progress via Grade Tool provided on the D2L home page.
Course Learning Outcomes	<p><i>After successful completion of this course, a student should:</i></p> <ol style="list-style-type: none"> 1. Explain the fundamentals concepts of computer security apply to different components of computing systems. 2. Identify the basic cryptographic techniques using existing software in maintain information security. 3. Describe how malicious attacks, threats, and protocols for security vulnerabilities impact a systems infrastructure. 4. Describe the importance of network principles and architecture to security operations. 5. Define how to apply standard responses in the case spyware and malware is occurs. 6. Describe information security standards, compliance laws, and security policy to real-world implementation in both the private and public sector
Table of Content	<p>Module 1: (<i>Network Utilities and devices tools/project</i>) Chapter 1: Introduction to Computer Security Chapter 2: Networks and Internet</p> <p>Module 2: (<i>DoS Tools & Techniques – Tracert, Visual Route</i>) Chapter 3: Cyber Stalking, Fraud, and Abuse Chapter 4: Denial of Service Attacks</p> <p>Module 3: (<i>Scanning - WireShark</i>) Chapter 5: Malware Chapter 6: Techniques Used by Hackers</p> <p>Module 4: (<i>PingPlotter, a network monitoring and troubleshooting tool</i>) Chapter 7: Industrial Espionage on Cyberspace</p> <p>Module 5: (<i>Steganography - Caesar cipher to a secret decoder ring tools/project</i>) Chapter 8: Encryption</p> <p>Module 6: (<i>Linux Security Software Tools</i>) Chapter 9: Computer Security Software</p> <p>Module 7: (<i>Develop Security Policy Manual</i>) Chapter 10: Security Policies</p> <p>Module 8: (<i>Vulnerabilities Assessment Projects</i>) Chapter 11: Network Scanning and Vulnerability Scanning Chapter 12: Cyber Terrorism and Information Warfare</p>

Attendance:

The Instructor expects your attendance on D2L daily, minimum 2-3 time per week. Grade performance is a demonstrated function of attendance, preparation, and participation online. Students in this class should realize the nature of the course in which they are enrolled. This is an online class with no on-campus meetings scheduled. Therefore, there are no planned face-to-face interactions between students or between students and the instructor. Students are encouraged to visit the instructor on campus during office hours but this is not required. Students will interact with each other and with the instructor virtually, through online discussions in D2L, email, chat session and instructor feedback.

It is easy to fall behind in any course, but especially in an online course where it is up to the student to formalize a time to work on course materials. In order to ensure a student does not fall behind.

STRONGLY encouraged that students keep to the schedule suggested in this syllabus [basically one course module per 2 weeks during Fall and Spring semesters and four per week during a 4-week Summer semester].

There is an activity and assignment due for every module. This is a way to keep the student focused and for the instructor to assess student progress. Students must make a concerted effort to maintain currency and not wait until the last minute to complete assignments. The course is designed to enhance student learning, but the student is ultimately responsible to ensure that the learning takes place.

Evaluation criteria explained:

- Students are expected to be active participants in each course activities. Full credit for participation will be extended to students who regularly participate in discussion, share ideas, and contribute relevant personal experiences.
- Examinations will consist of essay (short and long answers), multiple choices, T/F questions, technological comprehension that cover in the lecture material, and assigned readings.
- Students will be given specific guidance on the amount of collaboration permitted for each assignment.

Exams:

There will be 2 primary examinations (cumulative Midterm & Final examination). The content will come from the text and other material presented in lecture sessions as well as the homework assignments. Note that material presented in PowerPoint lectures will supplement the assigned reading. There will be no make-up examinations. It is the student's responsibility to arrange for an excused absence before the exam. A grade of zero will be assigned for all exams missed without an excused absence. If an emergency arises on the day of a midterm, and the instructor deems that the absence is excused, then the weight of the final exam may be increased to replace the midterm. <http://registrar.kennesaw.edu/calendars/>

IMPORTANT NOTE: Respondus Lock Down Browser and Respondus Monitor (WebCam) will be utilized for Exams. You must have installed and tested a Web camera and microphone prior to beginning of the Exams. All exams are closed-book and closed-note. NO inside or outside resources or communications are permitted on any exam. D2L will instruct you with the steps required to install and activate both options (watch the following videos) for each exam.

General overview video: <https://www.respondus.com/products/lockdown-browser/student-movie.shtml>

Student perspective video: <https://www.youtube.com/watch?v=Apb8tArU6JI>

System Requirements for Respondus software (Students)

Windows: 10, 8, 7

Mac: OS X 10.10 or higher iOS: 7.0+ (iPad only).

Must have a compatible LMS integration.

Details. Adobe Flash Player (bundled with the Lock Down Browser installation)

Web camera (internal or external) & microphone

A broadband internet connection

Discussion:

There will be eight discussions questions within each module which reflect your weekly online attendances. Students are required to participate in all discussions during the semester via D2L <http://d2l.kennesaw.edu/>

Assignments:

Assignments are due throughout the term. Each of these assignments is weighted as noted in the assessment section below. You lose 20% of your score if you turn in a homework/presentation/assignment late, and late presentation/project/assignments will only be accepted up to one week after the due date! Late works / assignments / projects are not accepted!

Note: Any assignments, project, online assessment past the due dates points off (*above restriction*) and/or will not be accepted.

Assignments are due throughout the term and must be submitted through D2L by 11:59pm on designated due date for each assignment. Each assignment is weighted as noted in the assessment section below.

You lose 20% of your score if you turn in a homework assignment late, and late assignments will only be accepted up to one week after the due date!

CompSec Assignments

1	CompSec Laboratory and Security Assignments	<p>Each Module will have assignment(s) with attached file, which consist of all the resources that student need to complete the tasks. This include the instruction for software download, lecture video, and resources needed to do the assignment(s).</p> <p>■ All the assignments are require to submit via D2l http://d2l.kennesaw.edu/.</p>
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Research/Paper Project Requirements:

The purpose of the research article report is to provide an opportunity for you to conduct a Computer Security (CompSec) research project/paper and learn about research methodology, understand, organize, and present a synopsis of a current topic/research project in CompSec. Projects can address virtually any technical issue in the area of CompSec technologies. The report is to be done individually 4 phases of deliverables.

APA Documenting Required:

All CS students are encouraged to use digital or library of the American Psychological Association ([APA](#)), available in the KSU bookstore and elsewhere. When any portion of another author's work is used, whether it is from a course textbook or outside work, including the World Wide Web, in whole, in part, or paraphrased, that work must be cited. Proper citation formats are provided. Failure to do so can result in Academic Misconduct Proceedings.

Student Course Evaluation:

A standard questionnaire (described below) will be administered during the last two weeks of the semester in all courses. Additional questions developed by the college or instructor(s) may be included as well. It is important that each student provide meaningful feedback to the instructor(s) so that changes can be made in the course to continually improve its effectiveness. We value student feedback about the course, our teaching styles, and course materials, so as to improve our teaching and you're learning. At a minimum, the following two questions will be asked:

1. Identify the aspects of the course that most contributed to your learning (include examples of specific materials, exercises and/or the faculty member's approach to teaching and mentoring), and
2. Identify the aspects of the course; if any that might be improved (include examples of specific materials, exercises and/or the faculty member's approach to teaching and mentoring).

Assessment Grades will be calculated as follows:

Laboratory Assignments (<i>within each Module(8)</i>)	240
Discussion (<i>within each Modules(8)</i>)	40
Test_1 – Midterm Exam (<i>Comprehensive</i>)	110
Test_2 – Final Exam (<i>Comprehensive</i>)	110
Total	500

- All the detailed points are in [D2L](#) - Weekly reports and final project

Grading Scale:

Grade	Percentage	Point System
A	90% - 100%	450 - 500
B	80% - 89%	400 - 449
C	70% - 79%	350 - 399
D	60% - 69%	300 - 349
F	59% or below	299 - 0

Withdrawal Policy:

The last day to withdraw without academic penalty is [shown on the course schedule](#). Ceasing to attend course via D2L or oral notice thereof DOES NOT constitute official withdrawal from the course. Students who simply stop participating course weekly via D2L without officially withdrawing usually are assigned failing grades. Students wishing to withdraw after the scheduled change period (add/drop) must obtain and complete a withdrawal form from the Academic Services Department in the Registrar's Office.

Incomplete Policy:

I— The grade of “I” denotes an incomplete grade for the course, and will be awarded only when the student has done satisfactory work up to the last two weeks of the semester, but for nonacademic reasons beyond his/her control is unable to meet the full requirements of the course. A grade of “I” must be removed (by completing the course requirements) within one calendar year from the end of the semester in which the “I” was originally assigned. <http://www.kennesaw.edu/foreignlanguage/facultyinfo/IncompletePolicy.html>

Enrollment Policy:

Only those students who are enrolled in the online course may visit the lectures, receive assignments, take quizzes and exams, and receive a grade for the course via D2L. If a student is administratively withdrawn from this course, they will not be permitted to participate in any online course activities nor will they receive any grade for the course.

Email Messages:

Remember to put the course name and section number in the subject field of every e-mail message that you send me. E-mail messages that are missing this information are likely to be automatically redirected to a folder I seldom check.

Diversity Statement:

All courses offered by the Computer Science department will adhere to the KSU policy that prohibits discrimination on the basis of race, religion, color, sex, age, disability, national origin, or sexual orientation.

Disability Statement:

Any student with a documented disability needing academic adjustments is requested to notify the instructor as early in the semester as possible, and must do so before the mid-term exam. Verification from KSU disabled Student Support Services is required. All discussions will remain confidential. http://www.kennesaw.edu/stu_dev/dsss/dsss.html

Student Email and Web Account Access:

KSU is moving towards a central authentication server that will allow one username and password to be used by all KSU users to access an increasing variety of applications (email, D2L etc.) This unified network identification is referred to as your "NetID". The new source for university-provided email and web space for students will be located at students.kennesaw.edu All students will have access to this system once they have established their NetID.

How to Activate your NetID:

To activate your NetID go to <http://netid.kennesaw.edu> and click on "Sign up Now!" link. You will be asked to provide information to verify your identity and set your password. This password will only be for NETID enabled applications.

How to Look Up a NetID:

After you have activated your NetID, you can look up other users by logging into <http://netid.kennesaw.edu> and clicking on Directory Search.

How to Send Email:

For student email, your NetID in combination with the new email address would look like <http://uits.kennesaw.edu/support/newstudents.php>.

Web Address:

For student web address, your NETID in combination with the new server address would look like <http://uits.kennesaw.edu/support/newstudents.php>.

If you have problems please call the Service Desk at ext. 6999 or e-mail service@kennesaw.edu.

Acquiring Final Grades:

In an effort to better utilize our technology resources, Kennesaw State University has instituted the reporting of end of term grades by phone. This is in addition to the web version of grades, which has been in effect for several terms. All current semester term students may call 770-420-4315 and select Option Number 4 to secure their end of term grades. With this new development, printed grade reports will not be mailed at the end of the term. Students needing verification of grades or enrollment should request either an official transcript or enrollment verification through the Office of the Registrar.

Any student with a documented disability needing academic adjustments is requested to notify the instructor as early in the semester as possible, and must do so before the mid-term exam. Verification from KSU disabled Student Support Services is required. All discussions will remain confidential.

Academic Integrity Statement:

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section II of the Student Code of Conduct addresses the University's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to University materials, misrepresentation/falsification of University records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the University Judiciary Program, which includes either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement.

Students are encouraged to study together and to work together on class assignments and lab exercises; however, the provisions of the STUDENT CONDUCT REGULATIONS, II. Academic Honesty, KSC Undergraduate Catalog will be strictly enforced in this class.

Frequently students will be provided with "take-home" exams or exercises. It is the student's responsibility to ensure they fully understand to what extent they may collaborate or discuss content with other students. No exam work may be performed with the assistance of others or outside material unless specifically instructed as permissible. If an exam or assignment is designated "no outside assistance" this includes, but is not limited to, peers, books, publications, the Internet and the WWW. If a student is instructed to provide citations for sources, proper use of citation support is expected.

Computer Science Department Policies:

Students are minded that the Computer Science Department has certain policies in place that govern practices within the department. Including:

- All courses used toward any undergraduate degree in the Computer Science Department must be completed with an assessed performance grade of "C" or better. This means that all prerequisite courses from the Computer Science Department must have been completed with a "C" or better in order for a student
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- t to enter the next course in a sequence.
- All requests for course overloads must be made through the department chair's office at <http://ccse.kennesaw.edu/cs/>. The Instructor of any course is not permitted to authorize course overloads.
- All requests for prerequisite bypasses must be made through the department chair's office at <http://ccse.kennesaw.edu/cs/> The Instructor of any course is not permitted to authorize course overloads.
- All students are encouraged to register their current choice of major using the department change process at <http://ccse.kennesaw.edu/cs/> Students who are not recorded under their intended major may find that they may be limited from registering for courses they require to complete their intended program of study.
- To answer any questions about these or other departmental policies, please contact the chair's office.

Tentative Course Schedule: Subject to Change

Dr. Sarah North snorth@kennesaw.edu

Every two Week Due Dates		Course Assignments
1	Module_1 Module Tasks Due June 10	Welcome- Login to http://D2L.kennesaw.edu/ and overview Course Start here Module 1 Chapter 1: Introduction to Computer Security Chapter 2: Networks and Internet 1. Discussion 2. Laboratory Assignment: <i>Vulnerabilities Assessment Projects</i> <u>Refer to D2L for detail information</u>
2	Module_2 Module Tasks Due June 17	Module 2 Chapter 3: Cyber Stalking, Fraud, and Abuse Chapter 4: Denial of Service Attacks 1. Discussion 2. Laboratory Assignment: <i>DoS Tools & Techniques - Tracert</i> <u>Refer to D2L for detail information</u>
3	Module_3 Module Tasks Due June 24	Module 3 Chapter 5: Malware Chapter 6: Techniques Used by Hackers 1. Discussion 2. Laboratory Assignment: <i>Scanning - WireShark</i> <u>Refer to D2L for detail information</u>
4	Module_4 Module Tasks Due July 1 Test_1	Module 4 Chapter 7: Industrial Espionage on Cyberspace 1. Discussion Laboratory Assignment: <i>Espionage in Cyberspace</i> Test #1 – Ch. 1 – Ch. 6 - <u>Refer to D2L for detail information</u>
5	Module_5 Module Tasks Due July 8	Module 5 Chapter 8: Encryption 1. Discussion 2. Laboratory Assignment: <i>Encryption</i> <u>Refer to D2L for detail information</u>
6	Module_6 Module Tasks Due July 15	Module 6 Chapter 9: Computer Security Software 1. Discussion 2. Laboratory Assignment: <i>-Computer Security Software</i> <u>Refer to D2L for detail information</u>
7	Module_7 Module Tasks Due July 18	Module 7 Chapter 10: Security Policies 1. Discussion 2. Laboratory Assignment: <i>Security Policies</i> <u>Refer to D2L for detail information</u>
8	Module_8 Module Tasks Due July 18 Test_2	Module 8 Chapter 11: Network Scanning and Vulnerability Scanning Chapter 12: Cyber Terrorism and Information Warfare 1. Discussion 2. Laboratory Assignment: <i>Network Scanning and Cyber Warfare</i> Test #2 – Ch. 6 – Ch. 12 – <u>Refer to D2L for detail information</u> July 18-July 22

