Cyber Security Concepts and Practices
CSCI 5347
Spring 2024

INSTRUCTOR: Dr. Jeffrey Zheng
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Office: STEM 312
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Phone: 936 468 2508

LEARNING MANAGEMENT SYSTEM: Communication for the course will be conducted through email. All other documentation, such as course materials, will be facilitated through Brightspace.

DROP-IN & PROBLEM SOLVING HOURS: STEM 312: Monday 9 am – 11 am, Tuesday/Thursday: 1 pm – 2 pm, Friday: 11 am – 12 pm (Zoom) Other times available by appointment: email me at least 24 hours in advance. Zoom meeting available upon request.

CLASS INFO: Credit Hours: 3
Meeting Time: TR 11:00 am - 12:15 pm
Location: STEM 316

PREREQUISITES: CSCI 3302. Must have a grade of C or better in each prerequisite course.

CATALOG DESCRIPTION: Study of computer and Internet security concepts and practices. Introduction to cryptography and information security. Understanding the different types of malware and how to prevent them. Cloud computing and emerging technologies security risks and practices.

STUDENT LEARNING OUTCOMES: Upon successful completion of the course, students should be able to:
1. Describe, discuss, and apply security principles to solve problems.
2. Create security policies for different organizational scenarios.
3. Understand and apply cryptography to applications.
4. Detect malicious software and know how to remove it from an infected system.
5. Discuss and build policies for cloud based systems.
6. Apply privacy practices and policies.

OFFICIAL COURSE SYLLABUS: For additional details including course description, purpose of course, student learning objectives, credit hour statement, and content, see the official course syllabus here: https://sfasu.edu/docs/computer-science/graduate-course-CSCI5347.pdf

NOTE: Students taking CSCI 5347 will be expected to complete additional requirements, including but not limited to special projects, class presentations, relevant research including literature review and current research topics from professional journals, and supplemental evaluation (i.e., additional questions, quizzes, tests). Students taking CSCI 5347 are expected to perform at a higher level than undergraduates taking CSCI 4347.


REQUIRED SOFTWARE AND HARDWARE: A working laptop with an internet connection.

GRADING POLICY: This course uses a point-based formula to calculate students’ end-of-course letter grades. There are 1000 points for assignments, exams, and the final exam. The end-of-course letter grades are determined based on the total number of points students earned using the following formula:

<table>
<thead>
<tr>
<th>Points Earned</th>
<th>Letter Grade</th>
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<td>900 - 1000</td>
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## EXAMS:
The tentative schedules of the exams are:
- Exam 1 (100 points): Thursday, February 8, in-class
- Exam 2 - Midterm (200 points): Thursday, March 7, in-class
- Exam 3 (100 points): Thursday, April 12, in-class
- Final exam (250 points): Tuesday, May 7, 10:30 am - 12:30 pm. Final exam schedule: [https://www.sfasu.edu/registrar/registration-information/final-exam-schedule](https://www.sfasu.edu/registrar/registration-information/final-exam-schedule)

NOTE: There are no exemptions from the final examination and no changes in taking the final examination. If the final exam time is a problem, you need to drop this course.

## ASSIGNMENTS:
There will be three assignments with a total of 250 points.

Assignments must be submitted before the due date to D2L unless instructed by the instructor otherwise. You will be given at least one week for each assignment and no late submission of assignments will be accepted. Do NOT send your assignment to me via email because it will be ignored.

## RESEARCH PAPER
A research paper will be assigned by the instructor and worth a total of 100 points.

General Requirements of Research Paper:
- The paper must be at least 6 pages long, but no more than 8 pages, including the references.
- The topic is related to cyber security or computer security in general.
- Any paper you reference to should be officially published in a journal or conference proceedings.
- You must write your paper using the IEEE template: [https://www.ieee.org/conferences/publishing/templates.html](https://www.ieee.org/conferences/publishing/templates.html)
- Only PDF format is accepted.

The grading rubric will be available in D2L.

## ATTENDANCE:
Attendance and constructive class participation are expected. You can have 5 absences without penalty; after that, each absence will result in a 5-point deduction from your earned points. If you miss a class, please work with your classmates to get any necessary material and review the available notes on Brightspace.

The Dean of Students Office will help to notify faculty of an absence for certain parameters. You can go HERE to learn more about this new process and also submit the form.

## ASYNCHRONOUS MINUTES:
As a full-term course at SFA, this course will require 150 minutes of asynchronous activity that will be disclosed by the instructor. This will include but is not limited to, networking events related to internships.

## PROGRAM LEARNING OUTCOMES:
Program learning outcomes define the knowledge, skills, and abilities students are expected to demonstrate upon completion of an academic program. These learning outcomes are regularly assessed to determine student learning and to evaluate overall program effectiveness.

- Students majoring in the Department of Computer Science may access program learning outcomes at [http://www.sfasu.edu/academics/colleges/sciences-math/computer-science/about/accreditations](http://www.sfasu.edu/academics/colleges/sciences-math/computer-science/about/accreditations)
Artificial Intelligence Fair-Use Policy: This course assumes that work submitted by students – all process work, drafts, brainstorming artifacts, final works – will be generated by the students themselves, working individually or in groups as directed by class assignment instructions. This policy indicates the following constitute violations of academic honesty: a student has another person/entity do the work of any substantive portion of a graded assignment for them, which includes purchasing work from a company, hiring a person or company to complete an assignment or exam, and/or using generative AI tools (such as ChatGPT).

Software Policy: Disciplinary action will be taken against individuals who perform unauthorized duplication of software or who are involved in the unauthorized use of duplicated software. Such action may make it impossible for you to successfully complete this course.

Computer Laboratory Usage: Students utilizing equipment in university computing laboratories are expected to read and abide by all posted policies for the laboratories. Please note that no children and no pets are permitted in university computing laboratories.

Drop Policy (Univ.): The official university add/drop policy is located at https://www.sfasu.edu/docs/hops/04-103.pdf. If you have questions concerning registration, add/drop, or the withdrawal process, please refer to the Registrar’s website.

Computer Account Policy: All assignments that require the use of the University Computer must be done under the computer account that is assigned to you in this class. You should NOT do other class assignments in this account, and you should NOT do assignments from this class in other accounts. Failure to abide by the above statements will mean that you will receive a grade of F in this course.

Code of Student Conduct and Academic Integrity (HOP 04-106)

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

Withheld Grades Semester Grades Policy (HOP 02-206)

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to https://www.sfasu.edu/docs/hops/02-206.pdf.
Students with Disabilities

To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Student Wellness and Well-Being

SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:

The Dean of Students Office (Rusk Building, 3rd floor lobby)
www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202
www.sfasu.edu/humanservices/139.asp
936.468.1041

The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

Crisis Resources:

- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- Crisis Text Line: Text HELLO to 741-741