

San José State University
Department of Computer Science
CS166, Information Security, Section 1, Fall, 2026

Course and Contact Information

Instructor:	Fabio Di Troia
Office Location:	MH217
Email:	fabio.ditroia@sjsu.edu
Office Hours:	TTh 13.30 to 14.30
Class Days/Time:	TTh 15:00 to 16:15
Classroom:	CCB 102 In Person
Format:	
Prerequisites:	CS 146 (with a grade of "C-" or better) and either CS 47 or CMPE 102 or CMPE 120 (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only; or instructor consent.

Course Format

Faculty Web Page and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on [Canvas Learning Management System course login website](http://sjsu.instructure.com) at <http://sjsu.instructure.com>. You are responsible for regularly checking with the messaging system through [MySJSU](http://my.sjsu.edu) at <http://my.sjsu.edu> (or other communication system as indicated by the instructor) to learn of any updates.

Course Description

Fundamental security topics including cryptography, protocols, passwords, access control, software security, and network security. Additional topics selected from multilevel security, biometrics, tamper-resistant hardware, information warfare, e-commerce, system evaluation and assurance, and intrusion detection.

Course Learning Outcomes (CLO)

After completing this course, you should be knowledgeable of the major technical security challenges in each of the following four areas: cryptography, access control, protocols, and software.

Required Texts/Readings

Textbook

Information Security: Principles and Practice, Mark Stamp | ISBN-10: 0470626399, ISBN-13: 978-0470626399

Other Readings

None

Other technology requirements / equipment / material

None

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

Homework, Midterm and Final exam are expected for this class. Homework is due on Canvas by class starting time on the due date. Each assigned problem requires a solution and an explanation (or work) detailing how you arrived at your solution. Cite any outside sources used to solve a problem. When grading an assignment, I may ask for additional information.

NOTE that [University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

CoS COVID-19 Safety

All students registered for a College of Science (CoS) class with an in-person component must view the [CoS COVID-19 Training](#) slides and the [SJSU Phased Adapt Plan](#) website and acknowledge reading them according to their instructor’s directions. By working together to follow these county and SJSU safety practices, we can keep our college safer. Students who do not follow COVID-19 Safety practice(s) outlined in the training, the SJSU Phased Adapt Plan, or instructions from their instructors, TAs or CoS Safety Staff may be dismissed from CoS buildings, facilities or field sites. Please review this training as needed throughout the semester, as updates will be implemented as changes occur (and posted to the same links).

Recording Lectures

This course or portions of this course (i.e., lectures, discussions, student presentations) will be recorded for instructional or educational purposes. The recordings will only be shared with students enrolled in the class through Canvas. The recordings will be deleted at the end of the semester. If, however, you would prefer to remain anonymous during these recordings, then please speak with the instructor about possible accommodations (e.g., temporarily turning off identifying information from the Zoom session, including student name and picture, prior to recording). Students are not allowed to record without instructor permission. Students are prohibited from recording class activities (including class lectures, office hours, advising sessions, etc.), distributing class recordings, or posting class recordings. Materials created by the instructor for the course

(syllabi, lectures and lecture notes, presentations, etc.) are copyrighted by the instructor. This university policy (S12-7) is in place to protect the privacy of students in the course, as well as to maintain academic integrity through reducing the instances of cheating. Students who record, distribute, or post these materials will be referred to the Student Conduct and Ethical Development office. Unauthorized recording may violate university and state law. It is the responsibility of students that require special accommodations or assistive technology due to a disability to notify the instructor.

Final Examination or Evaluation

The final test will be published on Canvas and will be submitted online.

Grading Information

- Homework, 25%
- Midterm 1, 25%
- Midterm 2, 25%
- Final, 25%

Note that "All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades." See [University Policy F13-1](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

Determination of Grades

Semester grade will be computed as a weighted average of the scores obtained in each of the three categories listed above.

No make-up tests or quizzes will be given and no late homework (or other work) will be accepted. Also, in-class work must be completed in the section that you are enrolled in.

Nominal Grading Scale:

Percentage	Grade
92 and above	A
90 – 91	A-
88 – 89	B+
82 – 87	B
80 – 81	B-
78 – 79	C+
72 – 77	C
70 – 71	C-

68 – 69	D+
62 – 67	D
60 - 61	D-
59 and below	F

Classroom Protocol

In this educational environment, we uphold a strict policy of integrity and respect. **Cheating** is absolutely unacceptable and will not be tolerated under any circumstances. It is expected by every student to be **respectful** towards both the instructor and their fellow students, fostering an atmosphere of mutual understanding and cooperation. To maintain focus and minimize disruptions, all **cell phones** must be turned off during class hours. Punctuality is key, so please ensure that you arrive as **class begins on time**. Lastly, for security and identification purposes, students are required to carry a **valid picture ID** at all times.

AI Use Policy

Unless explicitly stated otherwise for a specific assignment, **the use of AI tools is not permitted in this course**. This includes generative AI systems (such as ChatGPT, Copilot, Gemini), code-generation tools, automated writing assistants, grammar-correction, translation, and any software that produces, edits, or analyzes text, code, or assignments using AI based models.

All submitted work must be entirely your own, created without assistance from AI technologies. Using AI tools for any portion of an assignment, even for brainstorming or editing, will be considered a violation of the academic integrity policy.

If an assignment allows limited or specific AI use, the instructor will clearly indicate this in the instructions. If you are unsure whether a tool is allowed, you must ask the instructor before using it.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>. Make sure to review these policies and resources.

CS166 / Information Security, Course Schedule

The schedule is subject to change with fair notice communicated via Canvas course page

Week	Date	Topics, Readings, Assignments, Deadlines
1	8/20	Introduction
1	8/25	Crypto: Symmetric Key Crypto – Basic Crypto Algorithms
2	8/27	Crypto: Symmetric Key Crypto – Stream Ciphers
2	9/1	Crypto: Symmetric Key Crypto – Block Ciphers
3	9/3	Crypto: Symmetric Key Crypto – Block Ciphers Modes
3	9/8	Crypto: Public Key Crypto – Modular Arithmetic and RSA
4	9/10	Crypto: Public Key Crypto – Diffie-Hellman, Digital Signature
4	9/15	Crypto: Hash and Randomness
5	9/17	Recap
5	9/22	Midterm 1
6	9/24	Access Control: Authentication and Authorization
6	9/29	Access Control: Authentication and Authorization
7	10/1	Access Control: Authentication and Authorization
7	10/6	Access Control: Firewall and Intrusion Detection Systems
8	10/8	Protocols: Networking Basics
8	10/13	Protocols: Simple Authentication Protocols
9	10/15	Protocols: Simple Authentication Protocols
9	10/20	Protocols: Simple Authentication Protocols
10	10/22	Recap
10	10/27	Midterm 2
11	10/29	Protocols: Real-World Security Protocols
11	11/3	Protocols: Real-World Security Protocols
12	11/5	Protocols: Real-World Security Protocols
12	11/10	Software: Software complexity and Malware
13	11/12	Software: Malware Detection
13	11/17	Software: Software Flaws, Buffer Overflow
14	11/19	Software: Software Reverse Engineering, Open/Closed Source software
14	11/24	TBD
15	11/26	TBD

Week	Date	Topics, Readings, Assignments, Deadlines
15	12/1	TBD
16	12/3	Recap
Final Exam	12/10	1:00-3:00 PM