Faculty of Information Technology
Computer Science Dept.

Comp 432   **Computer Security**   **First semester 2024-2025**
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Course Name: **Computer Security (comp 432)**
Semester: *First semester 2024-2025*
Designation: Compulsory

Instructors

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Course Description and Goals

The course introduces the basics of computer security. Emphasis will be placed on sort of topics such as Security services: confidentiality, integrity, availability, accountability; Public and private key encryption; authentication; risk management and analysis; Information security process; Database security, Internet security: security protocols, Security technologies, and systems: Firewalls, IDS, and IPS.

The goal is to develop a fundamental understanding of computer and network security appropriate practices, policies, technologies, and standards.

Intended Learning Outcomes (ILO's)

After completion of this course, the student will be able to:

1. Describe computer and network security fundamental concepts and principles.
2. Identify and assess different types of threats.
3. Describe today's remote exploitation and penetration techniques.
4. Describe popular encryption algorithms.
5. Demonstrate the ability to select among available network security technology and protocols.

6. Get hands-on experience using popular security tools.
7. Identify ethical, and professional responsibilities.

Prerequisites

COMP 311: UNIX Operating System Lab
COMP242 OR COMP2321: Data Structure

Textbook(s)

Dieter Gollmann, Computer Security (3rd edition), John Wiley & Sons Ltd.

Agenda

Lectures	Topic
2	Overview of Computer Security.
3	Security Management.
5	Authentication and Identification.
5	Network Security and Basic Cryptography.
1	**Midterm Exam**
5	Intrusion Detection and Prevention.
2	Database Security
2	Software Security
5	Selected Topics in Security

Class and Teaching Plan

The lectures introduce the course material in depth and present truthful information about computer security. Additional course works, research issues, and projects are to consolidate the theory by practice.

Attendance/Participation

Regular attendance is required. Missing classes without any acceptable reason will permit students to be penalized, which will be applied to the final grade.

Student Responsibilities

1. Students are expected to actively participate in all classes and labs.
2. All students will be given assignments at the end of each chapter (whenever appropriate). The assignment should be submitted on the due date to your instructor. Late Assignments will not be accepted for any reason.

3. The student assignments and homework are individual effort and copying the assignment will be a cheating attempt, which may lead to failing the course.
4. Quizzes will be given whenever appropriate. Missing any quiz will result in zero marks in the given quiz.
5. The final exam will cover all chapters mentioned in the syllabus. In addition, the students are responsible for all topics covered during the entire semester and all materials posted on the website.

Assessment Plan

Midterm	25%
Final	35%
Project	30%
Assignments and Quizzes	10%

Note: There will be NO MAKEUP EXAMS. Missing any exam without an acceptable excuse will result in a zero grade on the exam. Lecture notes, assignments, announcements, and other material related to the course will be posted or handed over during the class session or laboratories.