		CSC435
Course Number and Name	CSC435 – Computer Security	
Course Coordinator	Ayman Tajeddine	
Class Time and Location	MWF 4:00 p.m. – 4:50 p.m., Nicol Hall 417	
Credits and Contact Hours	3	
Semester	Spring 2024	

INSTRUCTOR
Name: Dr. Ayman Tajeddine
Email: ayman.tajeddine@lau.edu.lb
WhatsApp: 76607888
Office: Nicol Hall 510
Office Hours: MWF 5:00-6:00 pm and by appointment

CURRENT CATALOG DESCRIPTION
Introduction to computer security including formal models of security, security goals and fundamentals (confidentiality, integrity, availability, etc.), introduction to risk assessment and management, security standards in government and industry (e.g., Common Criteria, Orange Book, etc.), corporate and institutional security policies, evaluation process and levels, computer system protection principles, access controls, cryptography fundamentals, authentication, security operations, software attacks including malicious code and buffer overflows, social engineering, injection attacks, and related defense tools, network attacks including denial of service, flooding, sniffing and traffic redirection, defense tools and strategies, web sites attacks including cross-site scripting, IPSec, Virtual Private networks and Network Address Translation, and ethics. Hands-on experience is part of the class.

COURSE PREREQUISITE
CSC326 – Operating Systems.

TEXTBOOK
- W. Stallings and L. Brown. Computer Security: Principles and Practice. Fourth Edition, Global Edition. Pearson.
- Dieter Gollmann, Computer Security. Last Edition, John Wiley and Sons

COURSE TYPE
Required ☐   Major's **E**lective ☒   General Elective ☐

COURSE LEARNING OUTCOMES
CLO1. Students shall be able to explain the various threats to computer systems, and assess the risk levels associated with these threats.
CLO2. Students shall be able to explain and develop various computer security mechanisms.
CLO3. Students shall be able to understand, explain, and develop essential authentication and access control mechanisms.
CLO4. Students shall be able to understand, explain, and develop basic and modern cryptography concepts.
CLO5. Students shall be able to write security policies

STUDENT OUTCOMES ADDRESSES IN THIS COURSE
SO.1, SO.2, SO.4, and SO.6

COURSE GRADING AND PERFORMANCE CRITERIA

Final Exam	35%
Midterm	25%
Assignments/Projects	35%
Attendance/Participation	5%

TOPICS COVERED IN THE COURSE

1. Introduction to IT Security
2. Attacks and Threats
3. Software Security / Vulnerabilities
4. Web and software attacks (Buffer overflow, SQL Injection, …)
5. Foundation of Computer Security
6. Identification and Authentication
7. Access Control
8. Security Policies
9. Cryptography (General Principles, Symmetric, Asymmetric, Hashing, …)

REFERENCES

- Matt Bishop, Introduction to Computer Security, First Edition, Addison-Wesley, 2004.
- Behrouz A. Forouzan, Cryptography and Network Security, McGraw Hill, 2008.
- Other course notes will be provided as needed.

STUDENT CODE OF CONDUCT – ACADEMIC VIOLATIONS

The following table defines the sanction(s) associated with each violation. In some cases and when the violation is too general, a range of sanctions is set for the pertinent committee to choose from depending on the specifics of each case. As for the second offense, the set sanctions apply regardless whether the violation has taken place in the same course or a different one, within the same semester or not.

Code #	Violation	First Offense	Second Offense
Cheating			
2.2.1	Using material or equipment (including mobile phones, electronic tablets, i-pads, calculators, and other devices) that is not authorized by the instructor in an examination, project, or graded assignment	zero on the deliverable with a warning	F on the course with a warning
2.2.2	Cheating, copying, collaborating with or aiding another Student in a manner not permitted by the instructor on an examination, project, or other graded assignment	zero on the deliverable with a warning	suspension
2.2.3	Distributing or aiding in the distribution of previous exams without authorization of the instructor	double warning – suspension	suspension – expulsion
2.2.4	Stealing, reproducing, or circulating an examination or other graded assignment before it has been administered	suspension	expulsion
2.2.5	Impersonating another Student or allowing another Student to impersonate one's self during an examination, presentation, or other graded assignment	suspension for both	expulsion
2.2.6	Impersonating an assistant, staff member, or faculty member for the purpose of (a) proctoring examinations without authorization or permission or (b) obtaining confidential information regarding coursework or examinations	suspension – expulsion	expulsion

Code #	Violation	First Offense	Second Offense
2.2.7	Receiving, purchasing or selling a project, paper, or any academic document and presenting it as work other than that of the author	suspension – expulsion	expulsion
2.2.8	Submitting identical papers or coursework for credit in more than one class without the permission of the instructor	zero on the deliverable with a warning	F on the course with a warning
Plagiarism and Copyright Violations			
2.2.9	Failing to attribute language or ideas to their original source by not crediting the original author with an appropriate acknowledgement or citation	zero on the deliverable with a warning	F on the course with a warning
2.2.10	Using photocopied or electronic copies of textbooks, compact disks, films, music, online course materials, and other content beyond the fair use policy within University Premises	warning	double warning
2.2.11	Using copyrighted materials, including in written research reports and papers, without obtaining required permission, if any, from the rights holder	warning	double warning
Unauthorized Sale, Distribution, or Use of Course Materials			
2.2.12	Recording any lecture or presentation for personal use or public distribution without the prior consent of the course instructor. This applies to the unauthorized use of any medium including but not limited to mobile phones, electronic tablets, i-pads recorders, films, and other devices	warning	double warning
2.2.13	Selling academic materials by any Student, club, or group. This includes but is not limited to lectures, course recordings, class notes, and previous exams	warning	double warning

DEADLINES

Students who fail to submit their assigned work on time will receive a zero grade. Students are given one week after the grades are announced to request review of the correction of their exam paper or assigned work.

ATTENDANCE POLICY

1. Students are expected to attend all classes.
2. For valid reasons, students may miss classes for a maximum that is equivalent to two regular weeks.
3. When exceeding the maximum number of absences, it is the instructor's prerogative to ask the concerned student to stop attending and drop the course. In this case, it is the student's responsibility to drop the course; otherwise a grade of "F" or "NP" will be given.
4. In exceptional justified cases (long illness, etc…), where absences exceed the maximum, the student has to petition to the department Chair to be allowed to stay in the course.
5. Students are held responsible for all the material presented in the classroom, even during their absence

WITHDRAWAL POLICY

1. A student who withdraws after the Drop/Add period and by the end of the 5th week of classes (10th day of classes for Summer Modules) will obtain a "WI" on that particular course. The student may process such request directly through the Registrar's Office.

2. A student who withdraws from a course between the 6th week and the end of the 10th week of classes (18th day of classes for Summer Modules) will receive either a "WP" or a "WF". "WP" or "WF" will be determined by the instructor based on the achieved academic performance in that course till the time of withdrawal.

3. The "WI" and the "WP" will not count as a repeat; whereas the "WF" will count as a repeat.

4. "WI", "WP" and "WF" will not count towards the GPA calculation.

5. The deadlines for "WI" or "WP"/"WF" are clearly stated on the revised academic calendar on the LAU website:

> WI is equivalent to Early withdrawal
> WP is equivalent to Withdrawal/Pass
> WF is equivalent to Withdrawal/Fail

Deadline for "WP" and "WF" withdrawal from courses: check university calendar (It is the student's responsibility to drop the course)

COURSE ONLINE EVALUATIONS

In order to improve the effectiveness of the educational process, all students are expected to submit their course evaluations by the last day of classes. Students who fail to complete the evaluation of ALL registered courses by the set deadline:

1. will not be able to access their course grades from Banner or Portal until two weeks after the end of the final exams period; and
2. will not be able to request transcripts.

The anonymity of the process and the students will be maintained at all times.