HANOI UNIVERSITY
Faculty of Information Technology

61FIT2IIS
Introduction to Information Security

Module Description

Contact details

Lecturer:

Vuong Quang Huy
Email: huyvq@hanu.edu.vn

Unit Overview

1. **Unit Details**

Faculty	Information Technology
Unit code	61FIT2IIS
Unit name	**Introduction to Information Security**
Level	Undergraduate
Units of credit	3
Prerequisite	None
Suggested study	Six(06) hours per week
Year	Spring 2024

2. **Course description**

In the era of IT where computer is used in almost every field even in places where it is most unexpected. Beside knowledge about computer and how it works, a computer science student must be well-equipped with knowledge about information security also. This course is intended to provide students with fundamental concepts and understanding of information security, in which, the main focus is on an overview of key areas in information security including: security properties, vulnerabilities, attacks, policies, models, cryptography, evaluation, and their applications in real life. Students are given opportunities to do research about the topic area and hands-on experiences through lab sessions.

3. **Learning objectives**

On the completion of this unit students should be able to:

- Understand principal concepts, major issues, and basic approaches in information security.
- Have concept-level hands-on experience in the topic area.
- Do research in the topic area.

- Collaborate with other students via group activities.

4. **Course learning outcomes**

After completing the course, students will have a comprehensive overview of information security as well as more in-depth understanding of a number of focus areas that they select throughout the course. Furthermore, students will have hands-on experiences in information security. At the end of the semester, students will be able to:

- Recognize common attack patterns.
- Evaluate vulnerability of an information system and establish a plan for risk management.
- Demonstrate how to detect and reduce threats in network security.
- Evaluate the authentication and encryption needs of an information system.
- Demonstrate how to secure a wireless network
- Evaluate a company's security policies and procedures

Learning Resources

1. Information Security Principles and Practices, Mark Stamp, 2nd edition, 2011
2. Information Security Principles and Practices, Mark S. Merkow, Jim Breithaupt, 2nd edition, 2014
3. Computer Security Principles and Practice, William Stalling, Lawrie Brown, 3th edition, 2017.
4. The InfoSec Handbook An introduction to Information Security, Umesh Hodeghatta Rao and Umesha Nayak, 2014.

Assessment

Assessment table is applied to all students

Type	Assessment	Weight	Brief Description
Attendance	Attendance	10%	Students must participate in at least 80% of classes in order to be qualified for the final exam
Internal	Midterm	30%	Exam (closed book, multiple choice), lab sessions
	Research project		Students are required to make 1 group research project during lab session
Final	Final Exam	60%	Final Exam

Determination of final grade

Your internal mark, final exam and final grade are rounded to integers out of 10. The calculation uses the weightings in the assessment table above.

You are not qualified to take the final exam and the retake exam if the following happens:

- To participate less than 80% of classes

Pass Criteria
To obtain a grade of pass or higher in this unit student must pass the following criteria:

- The final score must be at least 50%.

Proposed Weekly Lectures & Tutorials Schedule

Week	Description	Tutorial	Assessment
1	Orientation – Introduction	Wireshark	
2	Principles of Information Security	Antivirus	
3	Physical and Biometric security	Physical and Biometrics Security	
4	Access control	Access control	
5	Symmetric key Cryptography	Cryptography: DES	
6	Public key Cryptography	Cryptography: AES	
7	Hash function	Cryptography: RSA	
8	Protocols	Hash function	
9	**Midterm exam**	**Midterm test**	**Midterm test**
10	Key Distribution and User authentication	Nmap	
11	Real world protocols	SSH	
12	Firewall and IDS	IDS/IPS Firewall	
13	OS and Software security	Snort	
14	Security management and Risk management	Wireless security	
15	**Final Exam**	**Final Exam**	**Final Exam**

Academic Honesty and Misconduct

Hanoi University expects all students and staff to act with honesty and integrity with all matters