INFORMATION SECURITY GRADUATION MODULE 1

1. Thông tin về học phần (General Information)

Tên học phần (Course name): Information Security graduation module 1

Mã học phần (Course code):

Số tín chỉ (Number of credits): 4

Loại học phần (Course type): Elective

Học phần tiên quyết (Prerequisites):

Học phần trước (Previous courses): Fundamentals of Information Security (INT1472), Introduction to Cryptography (INT1344), Windows and Linux/Unix Administration (INT1487)

Học phần song hành (Parallel courses):

Các yêu cầu đối với học phần (Course requirements):

- Lecture room: Projector, microphone and speaker.
- Laboratory:

Giờ tín chỉ đối với các hoạt động (Teaching and Learning hours):

- Lý thuyết (Lectures):   20h
- Bài tập (Exercises):   0h
- Bài tập lớn (Projects):   40h
- Thực hành (Labs):   0h
- Tự học (Individual reading): 0h

Địa chỉ Khoa/Bộ môn phụ trách học phần (Address of the Faculty/Department in charge of the course):

- Address: Faculty of Information Technology 1 - Posts and Telecommunications Institute of Technology, Km10, Nguyen Trai Street, Ha Dong District, Hanoi.
- Phone number: (024) 33510432

2. Mục tiêu học phần (Objectives)

Về kiến thức (Knowledge):

The aim of this course is to provide students with the in-depth knowledge about the security for operating systems, databases, web applications and some network services, including email, DNS and DHCP services.

Kỹ năng (Skills):

The aim of this course is to equip students with skills in:
- Analyzing security risks and threats to the information systems;
- Selecting and applying security measures to ensure the security for operating systems, web applications, databases and email, DNS and DHCP services.

Thái độ, Chuyên cần (Attitude):

Students must ensure the required class attendance, assigned projects and self-studying

hours.

3. Tóm tắt nội dung học phần (Description)

This course provides students with in-depth knowledge and skills in software security, including the general security model and detailed security measures for software systems. Specific topics of the course consist of security issues and security measures for operating systems, databases, web applications and some network services, including email, DNS and DHCP services.

4. Nội dung chi tiết học phần (Outlines)

Chapter 1 Operating system security
1.1. Security issues in operating systems
1.2. Security measures for operating systems
1.3. Project: Research the architecture, installation and administration of server operating systems (Windows server, Linux server)

Chapter 2 Database security
2.1. Security issues in databases
2.2. Security measures for databases
2.3. Project: Research the architecture, installation and administration of common database management systems (Microsoft SQL Servers, MySQL, Oracle DBMS)

Chapter 3 Web application security
3.1. Security issues in web applications
3.2. Security measures for web applications
3.3. Project: Research the architecture, installation and administration of common web servers (Apache web servers, Microsoft IIS, NgInx, Tomcat/Java applications,…)

Chapter 4 Other network services security
4.1. Emails and email service security
4.2. DNS security
4.3. DHCP security
4.4. Projects:
    4.4.1. Research the architecture, installation and administration of common email servers
    4.4.2. Research the architecture, installation and administration of DNS, DHCP servers

5. Học liệu (Textbooks)
5.1. Học liệu bắt buộc (Required Textbooks)

[1] Trent Jaeger, Operating System Security, Morgan & Claypool Publishers, 2008.

[2] Alfred Basta, Melissa Zgola, Database Security, Cengage Learning, 2012.

[3] Bryan Sullivan, Vincent Liu, Web Application Security, A Beginner's Guide, McGraw-Hill, 2012.

5.2. Học liệu tham khảo (Optional Textbooks)

[4] Michael E. Whitman, Herbert J. Mattord, Principles of information security, 4th edition, Course Technology, Cengage Learning, 2012.

[5] Mike Shema, Hacking Web Apps: Detecting and Preventing Web Application Security Problems, Elsevier Inc., 2012.

[6] Dafydd Stuttard, Marcus Pinto, The Web Application Hacker's Handbook: Finding and Exploiting Security Flaws, John Wiley & Sons, 2011.

[7] Darril Gibson, Microsoft Windows Security Essentials, Wiley Publishing, 2011.

[8] Mehedi Al Mamun, Operating Systems Security: Linux, LAP Lambert Acad. Publishing, 2011.

6. Phương pháp, hình thức kiểm tra – đánh giá kết quả học tập học phần (Grading Policy)

Grading method	Percentage	Group/Individual
- Attendance	10%	Individual
- Mid-term exams		
- Projects	40%	Group or individual
- Final examination	50%	Individual

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Trưởng Bộ môn
(Head of Department)

Giảng viên biên soạn
(Lecturer)

Hoàng Xuân Dậu

Đỗ Xuân Chợ

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