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## **CENG 448 – Cyber-System Security**

Fall 2017

### **Instructor**

Samer Moein, Ph.D.

E-mail: samerm@uvic.ca (put CENG 448 in Subject line)

### **Office Hours**

Days: Monday & Wednesday (12:00 - 2:00)

Office: EOW 403

### **Course Objectives**

1. Explore the foundations of information security from a security professional perspective.
2. Understanding the potential of emerging work in hardware-based security and trusted computing.

### **Learning Outcomes**

Upon completion of this course you will acquire the following skills:

1. Understanding cryptographic primitives and their use in secure systems.
2. Learning how networking, the Web, and wireless technologies affect security.
3. Identifying software security defects, from buffer overflows to development process flaws.
4. Using best practice techniques for authenticating people and computer systems.
5. Understanding principles of Security Models, Design, and Capabilities.

### **Syllabus**

1. Security Principles
2. Introduction to Cryptography
3. Physical Security
4. Secure Network Architecture
5. Database Security
6. Software Development Security
7. Web Application Attacks
8. Cloud Security

9. Hardware Security
10. Managing Identity and Authentication
11. Managing Security Operations
12. Preventing and Responding to Incidents
13. Business Continuity Planning / Disaster Recovery Planning

**Lectures**

Days: Monday & Thursday

Time: 08:30 – 09:50

Location: Elliott Building (ELL), Room 060

**Notes:** Lecture notes by Dr. S. Moein.

**Assessment: CENG 448**

Activity	Grade	
Project	30 %	Due: November 30 <sup>th</sup>
Mid-term	30 %	Date: October 19 <sup>th</sup>
Final	40 %	Date: To be scheduled during exam period
Total	100 %	

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

<http://web.uvic.ca/calendar2017-09/undergrad/info/regulations/grading.html>

**There will be no supplemental examination for this course.**

**Note to Students:** Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

**Accommodation of Religious Observance:**

<http://web.uvic.ca/calendar2017-09/undergrad/info/regulations/religious-observanc.html#>

**Policy on Inclusivity and Diversity:**

<http://web.uvic.ca/calendar2017-09/general/policies.html>

**Standards of Professional Behaviour:** You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities.

<http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf>

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Graduate Calendar for the UVic policy on academic integrity.

<http://web.uvic.ca/calendar2017-09/undergrad/info/regulations/academic-integrity.html>

**Equality:** This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Resource Centre for Students with a Disability located in the Campus Services Building.

The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

### **Course Lecture Notes**

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.