



ELEC 572 – Security, Privacy, and Data Analytics

Term - Summer 2017 (201705)

Instructor

Dr. Samer Moein

E-mail: samerm@uvic.ca (put ELEC 572 in Subject line)

Office Hours

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

Office: EOW 403

Course Objectives

1. To explore the foundations of information security and privacy issues from an engineering perspective.
2. To learn analytics and statistical techniques and methodologies in information security

Learning Outcomes

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

1. Deploy analytics and statistical packages, tools, and applications.
2. Simulate security events and scenarios.
3. Apply concepts, techniques, and methods to quantify levels of security and privacy required and achieved.
4. Use established protocols and procedures to countermeasure adversaries and attack.

Syllabus

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| 1. Introduction to Cryptography | 2. Public Key Infrastructure |
| 3. Secure Network Architecture | 4. Securing Network Components |
| 5. Secure Communications and Network Attacks | 6. Security Threats and Countermeasures |
| 7. Cyber Incident Response | 8. Incidents and Ethics |
| 9. Managing Identity and Authentication | 10. Introduction to Security Analytics |
| 11. Analytics Software and Tools | 12. Access Analysis |
| 13. Analytics and Incident Response | 14. Simulations and Security Processes |

Lectures

Sections: A01/CRN 30376 & A02/CRN 30377

Days: Monday & Thursday

Time: 13:00 – 14:20

Location: Cunningham Building (CUN), Room146

Required Text

Title: Information Security Analytics: Finding Security Insights, Patterns, and Anomalies in Big Data.

Authors: M. Talabis, R. McPherson, I. Miyamoto, J. Martin, and D. Kaye.

Publisher: Elsevier.

Year: 2015.

References: Conference and journal articles

Notes: Lecture notes by Dr. S. Moein.

Assessment: ELEC 572

Activity	Grade	
Project I	30 %	Due Date: July 24 th
Project II	30 %	Due Date: July 24 th
Midterm I	20 %	Date: June 8 th
Midterm II	20 %	Date: July 20 th
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 Graduate Calendars.

<http://web.uvic.ca/calendar2017-05/grad/academic-regulations/grading.html>

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/calendar2017-05/general/policies.html>

Policy on Inclusivity and Diversity:

<http://web.uvic.ca/calendar2017-05/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/calendar2017-05/grad/academic-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.