UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCES AND ENGINEERING
FACULTY OF INFORMATION

ECE1518 & JIE1001

Seminar in Identity, Privacy and Security

Winter 2018 Tentative course outline.

Time: Tuesdays 2:00-4:00 pm
Location: UC140 (University College Building)

Instructor: Dimitrios Hatzinakos (ECE)
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416-978-1613
dimitris@comm.utoronto.ca
URL: www.comm.utoronto.ca/~dimitris/JIE1001/JIE1001-outline.pdf

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Calendar Description:
This interdisciplinary course examines issues of identity, privacy and security from a range of technological, policy and scientific perspectives, highlighting the relationships, overlaps, tensions, tradeoffs and synergies between them. Based on a combination of public lectures, in-depth seminar discussions and group project work, it will study contemporary identity, privacy and security systems, practices and controversies, with such focal topics as biometric identification schemes, public key encryption infrastructure, privacy enhancing technologies, identity theft risks and protections, on-line fraud detection and prevention, and computer crime, varying between offerings. Seminars open to general attendance will be scheduled regularly during the first part of each lecture. The second part of the lecture will be restricted to students enrolled in the course.

Prerequisites:
Students should come with a basic appreciation for the recurring technical, scientific or policy issues in the fields of identity, privacy and security. While students should already have some basic background in one of these areas, it is not expected that they will come with substantial knowledge in them, only the interest to learn. Because this course is jointly offered by Electrical and Computer Engineering (ECE) and the Faculty of Information (FI), students should expect to be exposed to technical and policy approaches to identity, privacy and security topics they will not immediately be familiar with. However, given the deliberate inter-disciplinarity of the course, presentations and materials will be tailored to suit a broad range of backgrounds. There is no formal pre-requisite for this course. If you have concerns about whether you have the necessary preparation for the course, contact an instructor as soon as possible to discuss this.

Teaching approach:

The course will be conducted as a combination of public lectures, followed by seminar discussions among registered students, instructors, and guest speakers when present – with student review and commentary on the lectures, assigned readings and recent media news reports. There will be a strong emphasis on exploring security issues from a variety of perspectives with others who have varied disciplinary backgrounds. This will require attention to clear expression of experiences, concepts and opinions in conjunction with respectful listening and willingness to engage with alternative viewpoints. Active participation in these discussions, based on prior reading and/or experience is expected. There will be several occasions during the course when students will make presentations to classmates and wider audiences, for which they will receive feedback and be graded on. Students will also be expected to submit assignments, submit and defend a project report and participate in discussions reflecting on the readings and class discussions.

On-line Facilities:
The course will make use of the Blackboard management system for announcements, course discussions, sharing documents, and posting assignments and term papers. (Note that there are two web sites one for ECE1518 and one for JIE1001. Content in both sites are identical)

Required Readings:
There will be required readings each week, which will be available through the on-line course repository.

Evaluation:
Grades will be assigned individually (I) and collectively within project groups (G) for the following assignments:

Common assignments	30% (I)
Class participation (in-class and electronically)	10% (I)
Group project	60% (G)
▪ Project proposal	20% (G)
▪ Project report and poster presentation	40% (G)

Teaching Assistant:

Haiyan Xu (haiyan.xu@mail.utoronto.ca)

Administrative Assistant:

Joanie Lim (joanie.lim@utoronto.ca)

Confirmed Guest Lecturers/ Speakers

Name	Affiliation	Topic/general area
Zissis Poulos, Ph.D. Candidate	Electrical and Computer Engineering , UofT	Introduction to Cryptography & ledger based technologies.
Andreas Veneris, Professsor	Electrical and Computer Engineering , UofT	Introduction to Cryptography & ledger based technologies.
Hoi Kwong-Lo Professor	Electrical and Computer Engineering , UofT	Security in a Quantum World
Deepa Kundur, Professor	Electrical and Computer Engineering , UofT	Distributed Cybersecurity Networks, Smart grids
Ali Miri, Professor	Dept. of Computer Science, Ryerson University, Privacy and Big Data Institute	Network privacy and security
Uyen Trang Nguyen, Professor	Dept. of Computer science and Engineering, York University	Network security: On line social networking
Khaled El Emam, Professor	Faculty of Medicine and School of Electrical Engineering and Computer Science, University of Ottawa	Privacy Protective Surveillance
David Phillips, Professor	Faculty of Information, UofT	Surveillance and Ubiquitous Computing
David Lyon	Department of Sociology, Queens University	The Culture of Surveillance

Tentative Course plan

Date/ lecturer	**Subject and tasks**
January 9 D. Hatzinakos	Overview-Introduction Lecture slides www.comm.utoronto.ca/~dimitris/JIE1001/ECE1518-JIE1001 Lecture 1.pdf Reading assignment
January 16 Zissis Poulos, Andreas Veneris	Introduction to Cryptography
January 23 Zissis Poulos, Andreas Veneris	Introduction to ledger based technologies.

January 30 D. Hatzinakos	Biometrics
February 6 David Phillips	TBA (general area: Surveillance and Ubiquitous Computing)
February 13 David Lyon	"The Culture of Surveillance"
February 20	Spring break- No Class
February 27	Project Proposals due
March 6 Hoi Kwong-Lo	Security in a Quantum World
March 13 Ali Miri	TBA (general area: Network privacy and security)
March 20 Uyen Trang Nguyen	TBA (general area: Network security: On line social networking)
March 27 Deepa Kundur	TBA (Distributed Cybersecurity Networks, Smart grids)
April 3 Khaled El Emam	TBA (general area: Privacy Protective Surveillance)
April 10	Project Poster presentations . Project reports due