CMPT 886 - G100 Special Topics in Operating Systems

**Instructor(s):** Uwe Glaesser

**Calendar Objective/Description:**
None

**Instructor's Objectives:**
This seminar style course introduces cybersecurity concepts and discusses cyber intelligence and threat analysis methods in the context of Big Data analytics. Cyber situational analysis and anomaly detection based on probabilistic modelling will play a central role. This includes using the R language and software environment for statistical computing. Fundamental principles of cybersecurity risk assessment, intrusion detection and prevention, critical infrastructure protection and beyond will be discussed in detail. Students are expected to give presentations on research papers and outcomes of a term project.

**Prerequisites:**
None

**Topics:**
- Time series analysis and forecasting
- Discrete Markov process modelling
- Anomaly detection methods
- Advanced persistent threats
- Cyber currencies
- Smart contracts

**Grading:**
Grading will be based on a midterm exam, the term project, presentations and class participation. The grading scheme will be discussed in the first week of class.

Students must attain an overall passing grade on the weighted average of exams in the course in order to obtain a clear pass (C- or better).

**Academic Honesty Statement:**
Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).