SoCS Council Meeting

May 1, 2018

AGENDA

1. Approval of Agenda
2. Interim Director's Remarks — Pascal
3. Graduate Curriculum Committee — Stefan
4. Any other business

3. GRADUATE CURRICULUM COMMITTEE

ITEMS

1. Co-listing CIS*4510, CIS*4520 (electronic vote to follow).
2. Core graduate courses (request for comments).

CO-LISTING CIS*4510 AS GRADUATE COURSE

- CIS*4510 (F) - INTRODUCTION TO COMPUTER SECURITY - This course covers basic concepts and practices in computer and network security. This includes topics such as fundamental concepts of computer security, network security, threat landscape, threat intelligence and attack methods, ethical hacking concepts and other hacking techniques, security technology and security policies, and cloud security.
- To be co-listed as CIS*6510 Cyber Security Engineering
- The Graduate students will have a research component, including a project and paper, and presentations, instead of the Final Exam. (with a graduate final project).

CO-LISTING CIS*4520 AS GRADUATE COURSE

- CIS*4520 (W) - INTRODUCTION TO CRYPTOGRAPHY - This course is an introduction to the foundations of modern cryptography, with an eye toward practical applications. Topics covered include classical systems, information theory, mathematical background material, symmetric and asymmetric crypto-systems and their cryptanalysis, hash functions and message authentication (MAC), provable security, key-exchange and management, authentication and digital signatures. Importance of learning Cryptography in Digital Forensics will also be discussed.
- To be co-listed as CIS*6520 Advanced Cryptography and Cryptanalysis
- The Graduate students will have a research component, including a project and paper, and presentations, instead of the Final Exam

RESOURCES

- Since these are co-listings, no additional teaching task is required.
- Additional work required:
  - Differentiation between undergrad and graduate deliverables and grading.
  - More students in the class.
- Workload to be borne by course instructor.

- If the Cybersecurity MSc goes ahead, then the additional students could be significant, requiring teaching assistants, making this a more time consuming and less desirable course to teach (to be considered in the instructor's overall teaching load and DOE). Need to remember this, and use this as leverage when the time comes.

MOTION

To approve the addition of CIS*6210 and CIS*6220 as co-listings of CIS*4210 and CIS*4220, respectively.

- Course addition documents by e-mail this afternoon.
- Electronic vote to follow.

CORE GRADUATE COURSES

The problems:

- We don't have courses that are offered regularly, that students can rely on to plan their schedule of studies.
- Our courses are outdated, narrowly specific (not appealing to students studying outside of their own area), boutique.

A possible solution:

- Offer a set of core courses that are offered regularly (every other year), that represent core topics in computer science, that are accessible to students in all of our sub specializations.

WORKING LIST

Courses offered every 2-years:

1. Algorithms: Analysis and Design
2. Data, Statistics, and Experimental Design
3. Artificial Intelligence, Machine Learning and Optimization
4. User Experience and Social Aspects of Computing
5. Software Design, Analysis and Programming (incl. parallel & cloud)

Additional courses to leverage:

cybersecurity, bioinformatics, SOE