CSE-410: Introduction to Computer Security  
Fall 2016, Cooke 121. Time: MWF 12:00 - 12:50. Office hours: TBD (also by appointment)

Instructor:  
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Teaching Assistant: TBD

URL: http://www.cse.buffalo.edu/~mohaisen/teaching/cse410/f16/  
Piazza: https://piazza.com/buffalo/fall2016/cse410

Overview
This is an undergraduate-level course intended for junior and senior-level students and will teach them introductory concepts of computer security. The main foci of this course will be network, web security, and application security. Part of the work will be dedicated to ethical aspects of security, and online privacy.

In this course we cover fundamentals of threat models, security requirements, vulnerabilities and attacks, message integrity, and authentication, passwords (good and bad), offline and online attacks, denial of service, cookies and tracking, XSS, SQL injection (and defenses), exploitable bugs, shellcodes, viruses, worms, spyware, key loggers, botnets (and defenses; including isolation, sandboxing, virtual machines). The course will also cover concepts of online privacy and privacy enhancing technologies, including Tor and anticensorship systems, and ethical aspects of computer security as a scientific field and profession.

The course will be heavily hands-on, as opposed to theoretical teaching.

Prerequisite
Sufficient background in computer programming, networking concepts, and web technologies. If in doubt, check with the instructor.

Textbook
The following textbook is recommended as a reference:
  • Introduction to Computer Security,  
    Michael Goodrich and Roberto Tamassia,  

Grading
40% assignments (total of 10, weekly, including mini projects)  
40% Midterm and final (total of 3)  
10% Quizzes (total of 5)  
10% Class attendance and participation

Readings
Beside the contents covered in the lecture, the course will have some reading assignments on the material covered in the course, or as part of an individual homework. Readings are typically research or white papers. All readings will be posted on the course homepage before the lecture or release of assignment, and students are supposed to read them in advance. The readings will be assumed as a prior knowledge to the material discussed in the class, and will not be discussed during the lecture.

Policies
Refer to UB’s policy on code of conduct.