Course Orientation

CPEN 442

Teaching staff

- Instructor
  - **Dr. Konstantin (Kosta) Beznosov**
    - www.ece.ubc.ca/~beznosov
    - Research interests
      - » usable security
      - » security and privacy of online social networks
      - » authentication and authorization on the Web
      - » security for mobile devices
- Teaching Assistant
  - **Ildar Muslukhov**, Ph.D. candidate
  - additional TAs — TBD

Outline

- Course orientation
  - course site
  - syllabus
  - calendar
  - term project
  - Q&A
- Introduction into computer security
- Threat analysis

Syllabus Content

- Where can I get lecture notes?
- What background should I have?

What background should I have?

- From anonymous comments from 2009 students:
  - “This class invovles farily amount of programming. I am just wondering for those in EE, are they capable of doing all these coding from scretch.”
  - “This course definitely needed a strong programming background (which I happen to have). My peers without strong programming backgrounds had trouble with many of the assignments.”
  - “It was helpful to have taken CPSC 317 (Networking) and CPSC 310 (Software Engineering) and also concurrently taking MATH 342 at the same time.”
  - “I was lacking nearly all prerequisites for the course, and without my work experience with databases and web application programming I doubt I would have been able to keep up with the assignments. However, the focus of the quizzes and the projects was on problem-solving and applying new concepts, which my academic background had provided to me thoroughly.”
  - “An Electrical Engineering student (as opposed to a Computer Engineering student) does not have the background information to do some of the assignments.”

Syllabus Content

- Where can I get lecture notes?
- What background should I have?
- What will I be doing in the course?
- What will I be reading?
- What will the course schedule look like?
- How much time does the course require?

How Much Time Does the Course Require?

- A lot!

		[SD]	[D]	[N]	[A]	[SA]	Med.	Mode	S.D.	N	Mean
Q1	The assigned workload for the course was heavy.	0	0	3	8	13	5	5	.70	24	4.4

- From anonymous comments from 2013 students:
  - "I felt the assignments … were extremely time-consuming …"
  - "Coursework was too heavy - it was just more and more work dumped onto the student."
  - "Prof has extremely high expectations on students but I found them hard to meet …"
  - "The course was very time-consuming, …"
  - "I spent more time on this course than on my capstone fourth year project course, as a reference."
  - "The assignments and quizzes are very difficult. The workload of the course rivals the fourth year capstone 14 course(10credits)."
  - "Homeworks, Quizzes and Projects were very hard …"
  - "… the expectations for the course were quite high …"

How Much Time Does the Course Require?

- From anonymous comments from 2009 students:
  - “If a student is taking a full course load during the semester, it is quite unrealistic to have as many assignments and quizzes and expect students to start on the project early.”
  - “quizzes, assignments, and term project and exam is too much …”
  - “Lots of assignments, projects, one of my most intense courses.”
  - “With quizzes, lengthy assignments, and a pretty much full flegged project, as well as a final exam which is pass final to pass the course there was a lot of work to do.”
  - “Very heavy workload, the term project was huge, and there were no weeks that did not include either a due assignment or a quiz.”
  - “The assignments are all quite hard and take a lot of time, and the term project runs in parallel.”
  - “In this course I spent rough 16 hours week …”

repeat after me

- This course is hard!
- This course take a lot of time!

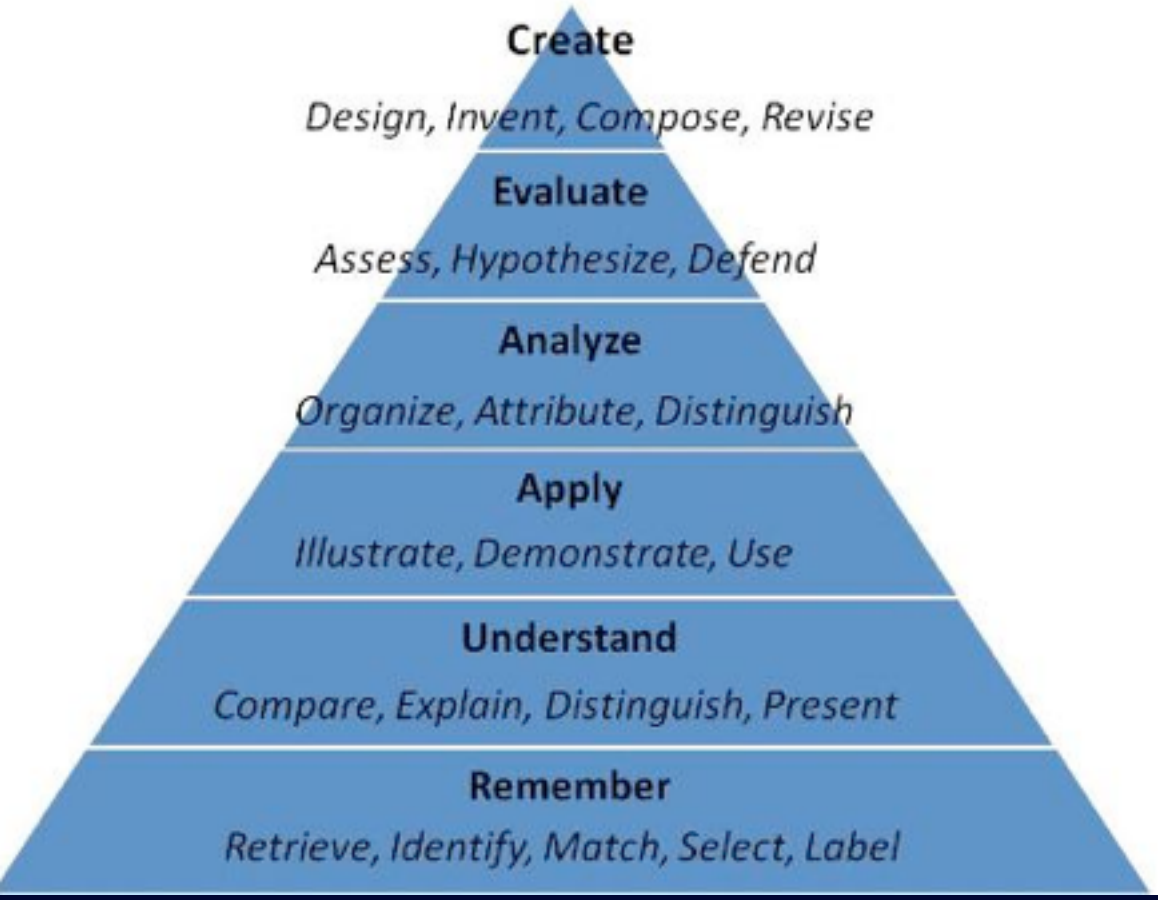
Syllabus Content

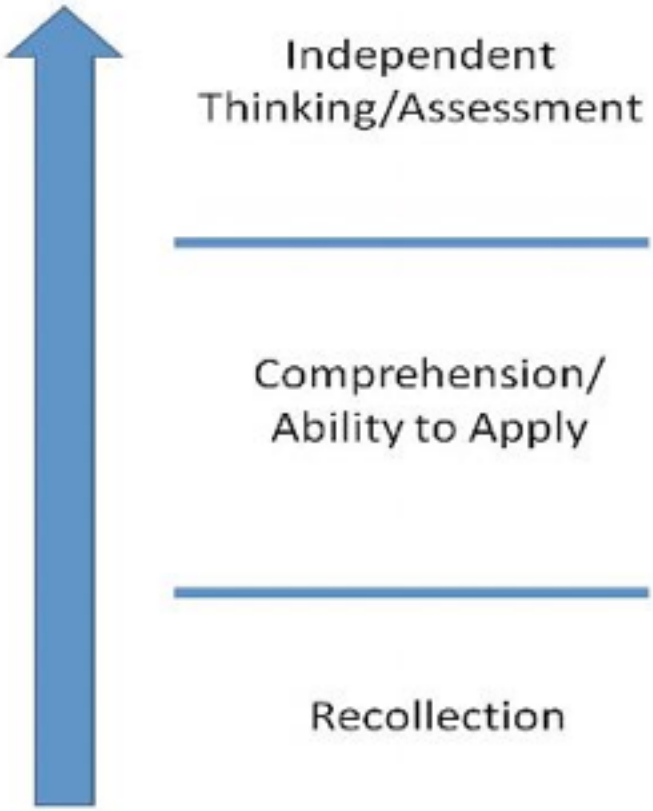
- Where can I get lecture notes?
- What background should I have?
- What will I be doing in the course?
- What will I be reading?
- What will the course schedule look like?
- How much time does the course require?
- Where can I find additional information resources?
- Where can I ask questions?
- How can I provide feedback?
- Will the home assignments be individual or group?
- What do I need to do to pass the course?
- What are the text books? Which one is required?

course information flows

- **courses.ece.ubc.ca/cpen442**: calendar, lecture slides, syllabus, office hours, deadlines,
- **turnitin.com**: submission of all written work for assessment, marks/grades
- **piazza.com**: out of classroom announcements, Q&As
- e-mail through piazza.com: urgent announcements
- course calendar
- course message board
- announcements
  - non-urgent: in the class
  - urgent: through e-mail
- office hours
  - TBD (in the calendar)

Bloom's taxonomy of learning





source: www.nltslibrary.info

Key Points

- A lot of
  - hard work -- 15-20 hours/week
  - programming
- All the course material is on courses.ece.ubc.ca/cpen442
- Start early!
  - First assignment due September 17
  - First quiz on September 15
  - Project proposals due October 22

assignment #1 review

term projects

term project types

- design
  - come up with a technological solution to a real security or privacy problem
  - evaluate your solution
- analysis
  - analyze security of a real system/product/service
  - fail the project if no vulnerabilities are found

security analysis projects

- authorized analysis of a
  - UBC system
  - third-party system
- ~~unauthorized analysis of a~~
  - ~~UBC system~~
  - ~~third-party system~~

authorized security analysis projects

1. **pre**authorized projects to analyze a UBC or third-party system
   1. Be the first group to “claim” the project. (send Kosta e-mail with subject “412: claiming project #…”)
   2. Meet with the system owner to scope out the project.
2. with authorization obtained by the students, analysis of a UBC or third-party system
   1. get authorization from Kosta by October 8
   2. get authorization from UBC IT Security by September 16
   3. get authorization from the system owner by TBD

examples of good analysis projects

- **Security Analysis of Mobile Telephony Customer Account Management**, by Nikola Radoicic, Andrej Satara, Rudi Plesch, Nabeel Huq (2013)
- **Security Analysis of the i>clicker Audience Response System,** by Derek Gourlay, Yik Lam Sit, Yuan Sunarto, Tim Wang (2010)
- **Analysis of Smart Card Laundry System**, by Jon Lee, Niel Paul, Choon-Sean (Steven) Cheong, Dicky Bratawijaya (2009)
- **Security Analysis of Vancouver's Pay-by-Phone Metered Parking**, by
  Chris Lee, Benjamin Wai, James Wang, Leo Wong (2008)
- **Security Analysis of Microsoft Notification Protocol**, by Jason Poon, Oliver Zheng (2007)

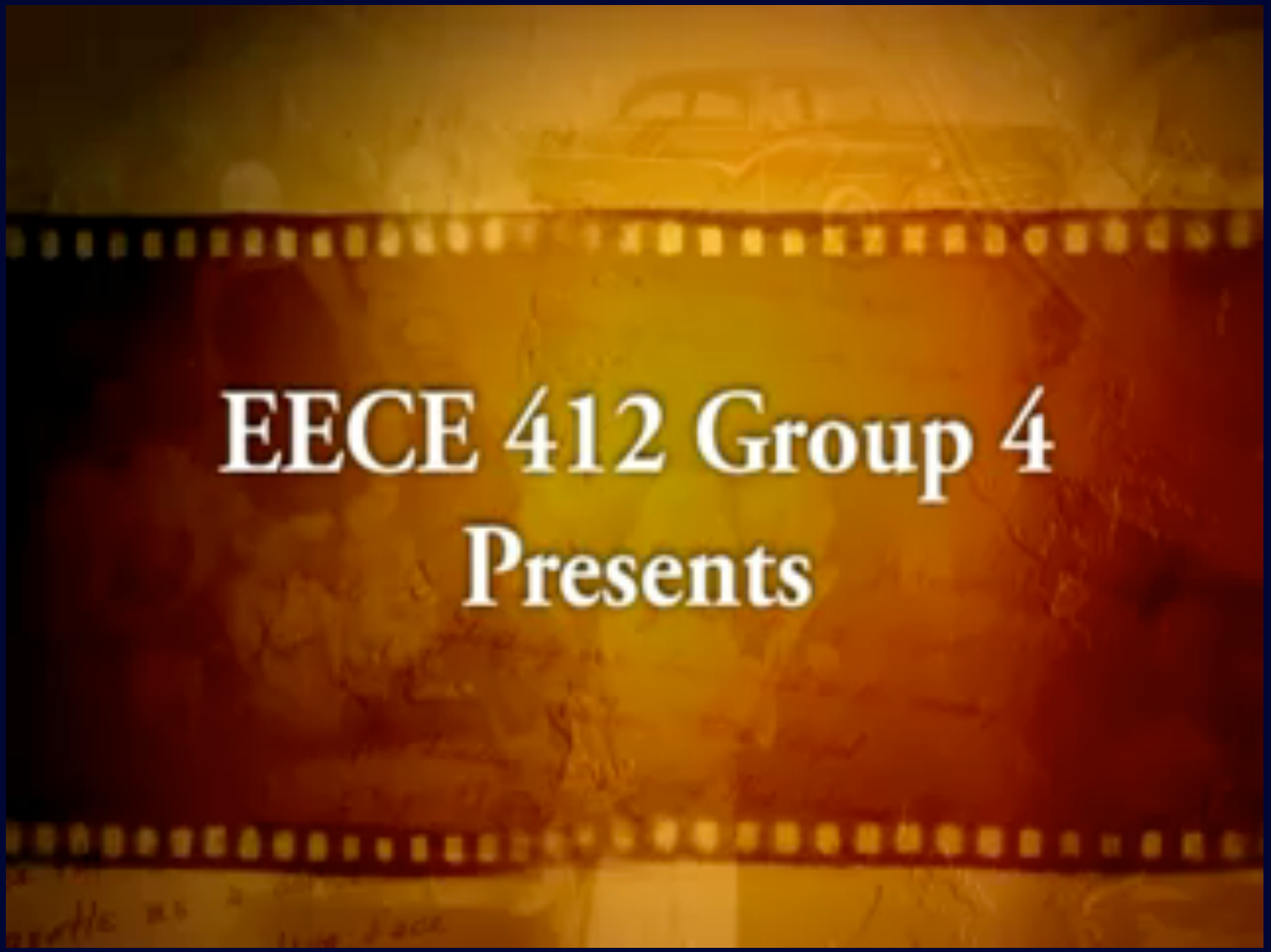
http://courses.ece.ubc.ca/412/term_project/previous_years_reports.html

Analysis of Smart Card Laundry System

Jon Lee, Niel Paul, Choon-Sean Cheong, Dicky Bratawijaya

Security Analysis of Vancouver's Pay-by-Phone Metered Parking

Chris Lee, Benjamin Wai, James Wang, Leo Wong



Security Analysis of Microsoft Notification Protocol

Jason Poon, Oliver Zheng

Analysis of MSNP

O. Zheng & J. Poon

Music: Timbaland ft. Elton John – Two Man Show

term project milestones

- **October22**
  - proposal presentations
  - written proposals and authorizations due
- **November 4**
  - **Introduction, Related Work, and Methodology sections of the report**
- **December 1**
  - project video clips due
- **December 7 (all day)**
  - project presentations
- **December 1**
  - final project reports due

Questions