CSC 521 – Computer Security

1. CSC 521 – Computer Security

2. credit units 4 contact hours 6

3. Course Coordinator: Bruce DeBruhl

4. Textbook (or other required material): None

5. a. Course Description:
   Exploration of advanced topics in computer security with an emphasis on research topics. 3 lectures, 1 laboratory.

   b. Prerequisite: CPE/CSC 321 and graduate standing

   c. Required/Elective/Selective Elective for CPE, CSC, EE, SE

      | Required | CPE | SE |
      |----------|-----|-----|
      | Elective | X   | X   |
      | Selective Elective | | |

6. a. Course Learning Objectives
   The student will be able to:
   - Discuss several areas of current Computer Security research and methods.
   - Analyze the professional literature relating to Computer Security.
   - Interpret and critique one of the fundamental topics of Computer Security.
   - Conduct independent research project in a current research area of Computer Security.
   - Practice oral and written communication skills sufficient for a conference quality paper and presentation.

   b. Level at which Student Outcomes are addressed
   ("B" = Basic level, "I" = Intermediate level, "A" = Advanced level)

      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
      |---|---|---|---|---|---|---|
      | A | A | A | A | A | A | N/A |
      | A | A | A | A | A | A | A |

7. Major Topics Covered: (number of lecture hours per)
This course will provide an overview of both historical and current Computer Security research and practice in a student-driven manner. After an introductory period of two weeks, the students will be divided into groups and each group will be assigned one of the topic areas below. The groups will be responsible for investigating that area (with instructor guidance) and presenting it to the class in the form of a 50-minute class presentation.
Although the readings below are taken from Matt Bishop's textbook (Bishop, M., Computer Security: Art and Science. Addison-Wesley, 2002), they are intended as guides to topics. Student presentations will be expected to rely on primary sources in the computer security literature, including some recent ones.

The lab for the course will consist of a quarter-long project where student groups will be asked to take some work from a current conference proceedings or journal article and either reproduce or extend it, ultimately presenting the results in a mock conference talk at the end of the quarter. The in-class portion of the lab will be guidance for and presentation of these projects.