

**CSE 6388: Internet Security (Special Topics in Advanced Information Security)
Spring 2016**

Instructor Information

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Section Information: CSE 6388, Section 1
Class Meeting Times: Tu/Th 12:30-1:50 PM

Location: GS 109

Course Description

This course provides hands-on training in research in computer and network security, with a special focus on usable security and anonymity and censorship circumvention on the Internet. Students will present research papers, write critically about research papers, and conduct a semester-long research project.

Course Objectives: By the end of the course, students should be able to:

- Identify the elements of good research papers in computer and network security.
- Locate good research papers on a specific topic.
- Identify the contributions, strengths, and limitations of a research paper.
- Generate research ideas based on the relevant literature.
- Develop a plan for exploring a research idea.
- Execute a research plan.
- Write about research findings.
- Present research ideas and findings to an audience.
- Intelligently discuss several of the major research topics in Internet security.

Required Textbooks and Other Course Materials: None

Prerequisites:

A course in networks and CSE 5380 or permission of the instructor.

Required Textbook and Other Course Materials:

None

Note: The instructor reserves the right to modify course policies, the course calendar, and assignment or project point values and due dates.

Grading: Course grades will be based on the following:

Research Paper Presentation	10%
Simulation Assignment	12%
Paper quiz game	3%
Reading Responses (5)	15%
Research Project	60%
Topic Proposal	5%
Proposal Presentation	10%
Proposal Document	25%
Final Presentation	10%
Final Report	50%

Grades will not be curved. Final grades will simply be the weighted average of the scores, based on the percentages shown above. Small amounts of extra credit may be available, but only on a class-wide basis (no individual requests will be granted). Grade bumps may be given based on participation in class, and the maximum possible bump is 1%.

Make-ups: Make-ups for graded activities may be arranged if your absence is caused by illness or personal emergency. A written explanation (including supporting documentation) must be submitted to your instructor; if the explanation is

acceptable, an alternative to the graded activity will be arranged. Make-up arrangements must be arranged prior to the scheduled due date.

Class Attendance Policy: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I do not check nor grade attendance. Please note, however, that students will be giving presentations in most classes, and that students in the audience will be graded on asking questions during presentations.

Descriptions of major assignments and examinations with due dates:

- Research Presentation: Present a research paper and relevant background and related work. 10% of your grade is for asking good questions during other students' presentations, and 10% is for thoughtful peer evaluations. Peer evaluations and Instructor evaluations will contribute equally to the remaining 80%.
- Simulation Assignment: *In pairs*. Using the Shadow simulator, develop and execute a small study of Tor. Produce a report describing the study and your findings.
- Reading Responses (5): Answer a question about a research paper in one page of writing. 10% of your grade will be for thoughtful peer evaluations, while your peers' scores and the instructor's scores will contribute equally to the remaining 90%.
- Paper Quiz Game: Students will all read one paper and break up into teams to ask each other questions about the paper, with points for asking good questions and for answering them correctly.
- Research Project: Explore (optionally as a pair of students) a research topic in security. It must involve some kind of experiment or study. Write a topic proposal, a main proposal, and a final report, present both the main proposal and the final results in class, and evaluate other students' work. 10% of presentation grades is for asking good questions during other students' presentations.

Course Schedule (Subject to Change)

<i>Week</i>	<i>Class Dates</i>	<i>Topic (# of student pres.)</i>	<i>Assignments</i>	<i>Due Dates</i>
1.	Jan. 19/21	Class Intro + Tor	RR1	Feb. 3
2.	Jan. 26/28	Traffic Analysis 1	Sim. Project	Feb. 22
3.	Feb. 2/4	Traffic Analysis 2 (1)	RR2	Feb. 17
4.	Feb. 9/11	AS Awareness + Routing Attacks (2)	Project Topics	Feb. 29
5.	Feb. 16/18	Traffic Analysis 3 (2)	Game	Mar. 2
6.	Feb. 23/25	Bitcoin and P2P (2)	Proposal	Mar. 28
7.	Mar. 1/3	Sybil (1)	RR3	Mar. 23
8.	Mar. 8/10	Censorship 1 (2)		
9.	Mar. 15/17	SPRING BREAK		
10.	Mar. 22/24	Censorship 2 (2)	RR4	Apr. 13
11.	Mar. 29/31	Proposal Presentations	Final Project	May 11
12.	Apr. 5/7	DDoS (3)		Apr. 27
13.	Apr. 12/14	Privacy and Ads (2)	RR5	
14.	Apr. 19/21	Ecosystems (3)		
15.	Apr. 26/28	Other/TBD (2)		
16.	May 3/5	Project Presentations		
17.	May 12	NO FINAL		

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. –Matthew K. Wright

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability.

Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD)**. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos. For information regarding Title IX, visit www.uta.edu/titleIX.*

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:
I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services Available: The University of Texas at Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit <http://www.uta.edu/resources> for more information.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at: <http://www.uta.edu/oit/cs/email/mavmail.php>.

Students will be given accounts for the ASCENT security-teaching lab. All students are expected to be responsible users of the computer systems used for this course. In particular, students are expected to abide by the code of ethics associated with this course.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held

as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. There are nearby exits on both your left and right when you leave this room. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at: <http://www.uta.edu/universitycollege/resources/index.php>

<p>Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381</p>
