

Syllabus

Instructor: Christina Garman (clg@purdue.edu)

TA: Farzad Zafarani (farzad@purdue.edu)

Course Webpage: <https://www.cs.purdue.edu/homes/clg/CS526/>

1 Overview

Course catalog: Basic notions of confidentiality, integrity, availability; authentication models; protection models; security kernels; secure programming; audit; intrusion detection and response; operational security issues; physical security issues; personnel security; policy formation and enforcement; access controls; information flow; legal and social issues; identification and authentication in local and distributed systems; classification and trust modeling; and risk assessment.

You should hopefully come out of this course with a broad understanding of information security, focusing on software security, network security, cryptography, mobile platform security, and privacy technologies, as well as how these security issues can impact real world systems.

Time: Tu/Th 10:30am-11:45am

Location: WANG, 2599

Prerequisites:

- CS 503 - Operating Systems: I will assume that you have had this course, and you will be responsible for knowing the material even if you have not.
- Programming experience: Some of the assignments will require programming knowledge, so you should be comfortable programming.

2 Office Hours

TBA

I will be available by appointment as well.

3 Grading

The exact mix of projects, homeworks, etc. is yet to be determined. However, expect there to be approximately four large projects with a few small assignments mixed in and two exams (a midterm and a final), with the approximate weights as follow. Part of your grade will include a participation component, so I do expect you to attend class. If you cannot make class for any reason (such as job interviews, etc.), please let me know as you will not be penalized for this.

- Projects: 55%
- Assignments: 10%
- Exam 1: 15%
- Exam 2: 15%

- Class participation: 5%

Assignments are due at the beginning of class at 10:30am on the stated due date. Late assignments will be penalized 5 percentage points per day. There is no collaboration allowed on exams. You must do only your own work. There are no textbooks, notes, or computers allowed during exams.

Final grades will be assigned on a curve at the end of the course.

4 Schedule

Please refer to the course webpage for the most up-to-date schedule as it is subject to change.

5 Additional Resources

We will be using Blackboard to submit assignments.

There will be readings listed for each day of class pertaining to the material we will cover, and I will expect that you have at least tried to read them (though it is okay if you do not understand everything right away).

No textbook is required, but if you would like additional resources the following may be useful:

Security Engineering by Ross Anderson (<http://www.cl.cam.ac.uk/~rja14/book.html>)

Computer Security: Principles and Practice, Prentice Hall, 2007. By William Stallings and Lawrie Brown.

6 Computer Science Department Academic Integrity Policy

The Department of Computer Science expects and enforces the highest standards of academic integrity and ethics. The Department takes severe action against academic dishonesty, which may include failing grades on an assignment or in a course, up to a recommendation for dismissal from the University.

Academic dishonesty is defined as any action or practice that provides the potential for an unfair advantage to one individual or one group. Academic dishonesty includes misrepresenting facts, fabricating or doctoring data or results, representing another's work or knowledge as one's own, disrupting or destroying the work of others, or abetting anyone who engages in such practices.

Academic dishonesty is not absolute because the expectations for collaboration vary. In some courses, for example, students are assigned to work on team projects. In others, students are given permission to collaborate on homework projects or to have written materials present during an examination. Unless otherwise specified, however, the CS Department requires all work to be the result of individual effort, performed without the help of other individuals or outside sources. If a question arises about the type of external materials that may be used or the amount of collaboration that is permitted for a given task, each individual involved is responsible for verifying the rules with the appropriate authority before engaging in collaborative activities, using external materials, or accepting help from others.

A student accused of academic dishonesty must be afforded due process as defined by Purdue University procedures. The Dean of Students Office may be notified concerning an academic dishonesty incident as provided by Purdue University procedures.

7 University Academic Integrity

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Incidents of academic misconduct in this course will be addressed by the course instructor and referred to the Office of Student Rights and Responsibilities (OSRR) for review at the university level. Any violation of course policies as it relates to academic integrity will result minimally in a failing or zero grade for that particular assignment, and at the instructor's discretion may result in a failing grade for the course. In addition, all incidents of academic misconduct will be forwarded to OSRR, where university penalties, including removal from the university, may be considered.

From the University: Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a, Student Regulations] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]

Please refer to Purdue's student guide for academic integrity: <https://www.purdue.edu/odos/academic-integrity/>

8 Purdue Honors Pledge

“As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.” <https://www.purdue.edu/provost/teachinglearning/honor-pledge.html>

9 Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. You are expected to read your @purdue.edu email on a frequent basis.

See the University’s website for additional information: https://www.purdue.edu/ehps/emergency_preparedness/

10 Accessibility and Accommodations

Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

11 CAPS Information

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and <http://www.purdue.edu/caps/> during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

12 Nondiscrimination

From the University: “Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.

Purdue University prohibits discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran. The University

will conduct its programs, services and activities consistent with applicable federal, state and local laws, regulations and orders and in conformance with the procedures and limitations as set forth in Executive Memorandum No. D-1, which provides specific contractual rights and remedies. Any student who believes they have been discriminated against may visit University's website (www.purdue.edu/report-hate) to submit a complaint to the Office of Institutional Equity. Information may be reported anonymously."

Please refer to Purdue's nondiscrimination statement: http://www.purdue.edu/purdue/ea_eou_statement.html

13 Grief Absence Policy for Students

Purdue University recognizes that a time of bereavement is very difficult for a student. The University therefore provides the following rights to students facing the loss of a family member through the Grief Absence Policy for Students (GAPS). GAPS Policy: Students will be excused for funeral leave and given the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for misses assignments or assessments in the event of the death of a member of the student's family.

See the University's website for additional information: http://www.purdue.edu/studentregulations/regulations_procedures/classes.html

14 Violent Behavior Policy

Purdue University is committed to providing a safe and secure campus environment for members of the university community. Purdue strives to create an educational environment for students and a work environment for employees that promote educational and career goals. Violent Behavior impedes such goals. Therefore, Violent Behavior is prohibited in or on any University Facility or while participating in any university activity.

See the University's website for additional information: <http://www.purdue.edu/policies/facilities-safety/iva3.html>