

CS 182: Foundations of Computer Science Syllabus

Course Web Page:	https://www.cs.purdue.edu/homes/spa/cs182.html
Lecture:	Tue and Thu 10:30-11:45 WALC 1055
Instructors:	Prof. Vernon Rego and Prof. Wojciech Szpankowski
Office hours:	by appointment
Office locations:	LWSN 1175 (Prof. Rego) LWSN 1201 (Prof. Szpankowski)
Instructors' e-mails:	rego@cs.purdue.edu (Prof. Rego)
(for emergencies only)	spa@cs.purdue.edu (Prof. Szpankowski)
Instructors' web pages:	http://www.cs.purdue.edu/homes/rego/ (Prof. Rego) https://www.cs.purdue.edu/homes/spa/ (Prof. Szpankowski)
Head TA:	Haleema Sadia
Head TA email:	hsadia@purdue.edu
Required textbook:	K. Rosen, <i>Discrete Mathematics and Its Applications</i> , McGraw-Hill Science/Engineering/Math; latest edition.

Approximate Course Outline

(See the course web page for a detailed, lecture-by-lecture, course outline.)

- Basic Logic
- The Language of Mathematics
- Proof Techniques including Mathematical Induction
- Algorithms
- Basic Number Theory (and Number Representation)
- Basic Counting
- Discrete Probability
- Trees
- Boolean algebra and combinatorial circuits
- Finite state machines
- Pushdown automata
- Complexity classes, computability, and undecidability

Prerequisites and learning objectives

See https://selfservice.mypurdue.purdue.edu/prod/bzwsrch.p_catalog_detail?subject=CS&term=CURRENT&cnbr=18200 for details.

Requirements and Grading

The course work consists of quizzes, homeworks, one midterm, and the final. The final grade is based on:

- Quizzes: 0%
- Homeworks: 30%
- Midterm: 30%
- Final: 40%

No late homeworks will be accepted. **All homeworks will be collected at the end of the class on the due date.** If you want to re-grade your homework or midterm, you must contact the TA of your Practice Study Observation (PSO) session within **10 days** of receiving your homework or midterm back. There will be absolutely no re-grading after this time period has elapsed. Missing exams imply a zero grade, unless there is a proper reason (e.g., medical), verified by campus authorities. We will also have unannounced quizzes in class. They won't be graded but they can help in borderline cases. No incomplete.

Policies

Announcements: There will be announcements relevant to the course made in class and/or via the course web page and/or via the Blackboard Learn course email list. You are expected to monitor the course web page and your email for information related to the class.

Conduct and Courtesy: Students are expected to maintain a professional and respectful classroom environment. In particular, this includes: silencing personal electronics; arriving on time and remaining throughout the class; do not insult or deride others for any reason (even in jest); be on time for class; leave class promptly and wait to ask the instructor questions in the hall, unless they pertain to material on the blackboard. You may use non-disruptive personal electronics during class.

Channel of Communication: Your first point of contact for questions related to the technical content of the lectures and homework problems should be the Head TA or TAs of your PSO session. For questions outside PSOs and office hours, use email.

You should only contact the instructors in case of an emergency (e.g., if you are unable to make the midterm and have a valid medical excuse by the appropriate campus authorities). Non-emergency emails to the instructor will be answered at the instructor's discretion. The best way to correspond with the TAs (and the instructors, in case of emergencies) is by email. We will make every effort to respond promptly; typical response time to emails would be between 24 and 48 hours (keep this in mind as you are working on homework problems and preparing for exams).

Missing or late work: As discussed in the requirements and grading section, missing or late work will be counted as a zero.

Academic integrity: Behavior consistent with cheating, copying, and academic dishonesty is not tolerated. Depending on the severity, this may result in a zero score on the assignment or exam, and could result in a failing grade for the class. 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, University 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). You are expected to read both Purdue’s guide to academic integrity (http://www.purdue.edu/purdue/about/integrity_statement.html) and Prof. Gene’s Spaford’s guide (<http://spaf.cerias.purdue.edu/integrity.html>) as well. You are responsible for understanding their contents and how it applies to this class.

Attendance: Students are expected to be present for every meeting of the classes in which they are enrolled.

Grief Absence Policy: 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). According to 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 missed assignments or assessments in the event of the death of a member of the student’s family.

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.

Students with Disabilities: Purdue University is required to respond to the needs of the students with disabilities as outlined in both the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 through the provision of auxiliary aids and services that allow a student with a disability to fully access and participate in the programs, services, and activities at Purdue University. If you have a disability that requires special academic accommodation, please make an appointment to speak with the Head TA or instructor within the first three (3) weeks of the semester in order to discuss any adjustments. It is important to talk about this at the beginning of the semester. It is the student’s responsibility to notify the Disability Resource Center (<http://www.purdue.edu/drc>) of an impairment/condition that may require accommodations and/or classroom modifications.

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 instructors control. Relevant changes to this course will be posted onto the course website and/or announced via email. You are expected to read your [purdue.edu](http://www.purdue.edu) email on a frequent basis.

Emergency Preparedness: Emergency notification procedures are based on a simple concept: *If you hear a alarm inside, proceed outside. If you hear a siren outside, proceed inside.* Indoor Fire Alarms are mean to stop class or research and immediately evacuate the building. Proceed to your Emergency Assembly Area away from building doors. Remain outside until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave. All Hazards Outdoor Emergency Warning sirens mean to immediately seek shelter (Shelter in Place) in a safe location within the closest building. “Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, a civil disturbance including a shooting or release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency. Remain in place until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave. In both cases, you should seek additional clarifying information by all means possible: Purdue Home page, email alert, TV, radio, etc. Review the Purdue Emergency Warning Notification System multi-communication layers at http://www.purdue.edu/ehps/emergency_preparedness/

warning-system.html. Please review the Emergency Response Procedures at https://www.purdue.edu/emergency_preparedness/flipchart/index.html. Please review the evacuation routes, exit points, emergency assembly area and shelter in place procedures and locations for our building. Video resources include a 20-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See <http://www.purdue.edu/securePurdue/news/2010/emergency-preparedness-shots-firedon-campus-video.cfm>

Nondiscrimination: 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, marital status, parental status, sexual orientation, 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.

Instructors' absence: Video lectures may be used to supplement missing class periods.

Changes to the syllabus: This syllabus is subject to change. Updates will be posted at the course website.