

ECE 526 Distributed Algorithms

Fall 2014

Prerequisite: One of CS 473, ECE 428, ECE 438

Instructor: Nitin H. Vaidya, Phone: 217-265-5414 E-mail: nhv@illinois.edu
Office Hours: Monday 10:30 - 11:50 or by appointment, room 458 Coordinated Science Lab.
Class: Tuesday and Thursday 9:30 - 10:50 a.m., Room 3015 ECE Building

Course web page: <http://courses.engr.illinois.edu/ece526/>

Please visit the course web page regularly to see course-related announcements, and other relevant information.

Course material:

- Required textbook: *Distributed Computing: Fundamentals, Simulations, and Advanced Topics, Second Edition*, Hagit Attiya and Jennifer Welch, John Wiley & Sons, 2004.
- In addition to the required textbook, we may also use papers from relevant publications, and other materials, including the book below, which should be available for free to UIUC students. The book is available from <http://www.morganclaypool.com/toc/dct/5/1> – for free access, visit the website from a computer with a UIUC IP address.

Impossibility Results for Distributed Computing, Hagit Attiya, Faith Ellen, Morgan & Claypool Publishers, 2014.

Course Content: Theoretical aspects of distributed algorithms, with an emphasis on formal proofs of correctness and theoretical performance analysis. Algorithms for consensus, clock synchronization, mutual exclusion, debugging of parallel programs, peer-to-peer networks, and distributed function computation; fault-tolerant distributed algorithms; distributed algorithms for wireless networks.

Grading policy

- Homeworks and In-Class Quizzes: 16%
Homework submissions must be typed (e.g., using LaTeX, or Word). A 48-hour extension beyond the due time for each homework is granted to all students. Submissions after the extension period will be assessed a 20% penalty per day, unless the instructor has approved an additional extension (additional extension will only be granted under extenuating circumstances).
- Two mid-term exams: 32% total
- Survey or research paper, and presentation: 25%. More information is provided on the course website.
- Final exam: 27%

At least one of the three exams above will be take-home. An announcement will be made at a later time regarding the exam schedule. **Take-home exam submissions must be typed.**

Academic integrity: The policy for academic integrity is based the UIUC Student Code available from <http://www.admin.illinois.edu/policy/code/> which states that “It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions”.

You may discuss interpretation of the homeworks with each other, but you are expected to construct and submit your own solutions to any homework that you turn in for credit. You may **not** discuss take-home exam questions or answers with other students before the due time for the exam.

If students are found to have collaborated excessively on homeworks, or to have cheated (e.g., by copying or sharing answers during an examination), all involved will receive a grade of 0 for the first infraction; further infractions may result in failure in the course and possibly other penalties.