Administrivia

CS 4410: Operating Systems
Spring 2025
Professor Robbert van Renesse

Cornell CIS
COMPUTING AND INFORMATION SCIENCE

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About RVR

- Ph.D. C.S., Vrije Universiteit Amsterdam
  - Amoeba Distributed Operating System
- Industry: Research Scientist @ AT&T Bell Labs
  - Unix, Plan 9
- Serial entrepreneur
  - Reliable Network Solutions (IP → Amazon)
  - D.A.G. Labs (acquired by FAST, then by Microsoft)
  - Exostellar (ongoing)

Interests: scalable and fault tolerant distributed systems

Non-geek: musician (jazz), swing dance, unicycling

Inclusion

- We strive to make CS4410 a welcoming, safe, equitable, and respectful environment, consistent with Cornell's commitments
- We recognize that the society we live in is none of those things, that we have implicit biases, and that we have to work hard every day to counter those biases to create an inclusive environment
- If you witness a bias incident or have been the victim of one, please file a confidential report with Cornell
- If you have any suggestions such as improvements to the web site, syllabi, slides, homework and exam questions, and so on, you can email cs4410-prof@cornell.edu.

Emotional Help

Cornell Health	https://health.cornell.edu/services/mental-health-care	Cornell University Health Service
Student Disability Services	sds.cornell.edu	Ensures that all aspects of student life are accessible, equitable, and inclusive of those with disabilities.

Get help. Get documentation. The earlier the better.
Also, please look out for each other

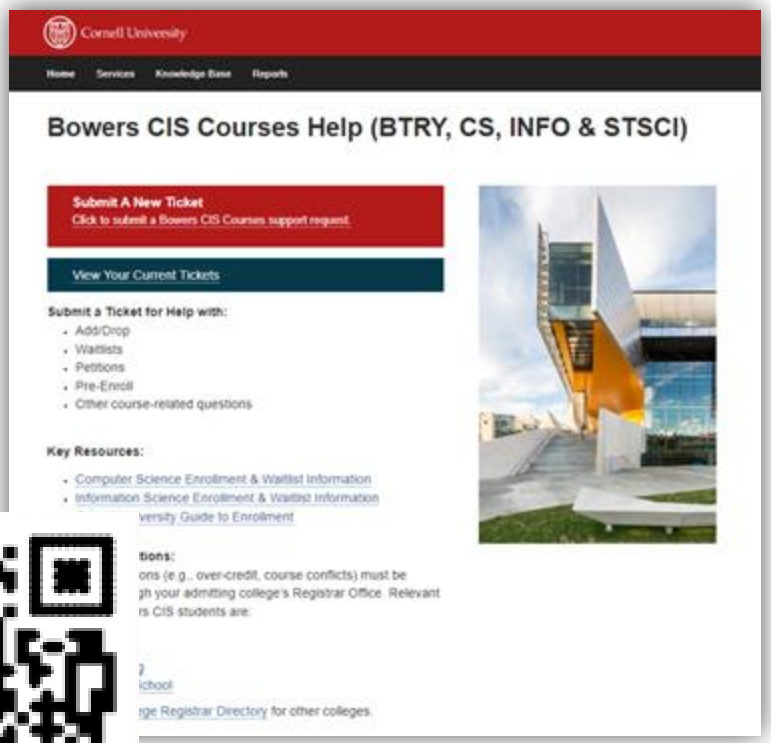
Bowers CIS Add/Drop Announcements

What to Know about SP25 Enrollment for BTRY, CS, INFO & STSCI Courses

Many courses are restricted by dept majors and/or grad or professional students only.

Course waitlists are open in Student Center* for non-majors.

Find links to enrollment policies and related info by visiting our **Courses Help Webpage** (or by scanning the below QR code).



Need Enrollment Help?

Scan the QR code to submit a ticket.

This is the fastest way to get help!

Please do not submit multiple tickets for the same issue—update/check your ticket by clicking the blue box.

**where applicable.*

We have great TAs!

Atulya Lohani
Ari Mirski
Angelica Schell
Abhijeet Saha
Becky Hu
Bahaa Kotb
Chenling Huang
Cameron Goddard
Daniel Lee
David Han
Eman Abdu
Isabella Hoie
Justin Wong
Jacqueline Wen
Lisa Li
Marta Liang
Mohammad Islam
Michael Wei
Noah Schiff
Osayamen Aimuyo
Ryan Ho
Shuangyu Lei
Sophia Pham
Vivian Fan

How this class is organized

- Before you take this class…
- Communication
  - Lectures, OHs, FAQ, etc.
  - Getting Help
- Homework, exams

Prerequisites

- CS 3410, CS 3420 or equivalent required

Otherwise: *you must contact the instructor, explain your situation and request permission*

Course Content

Five Components

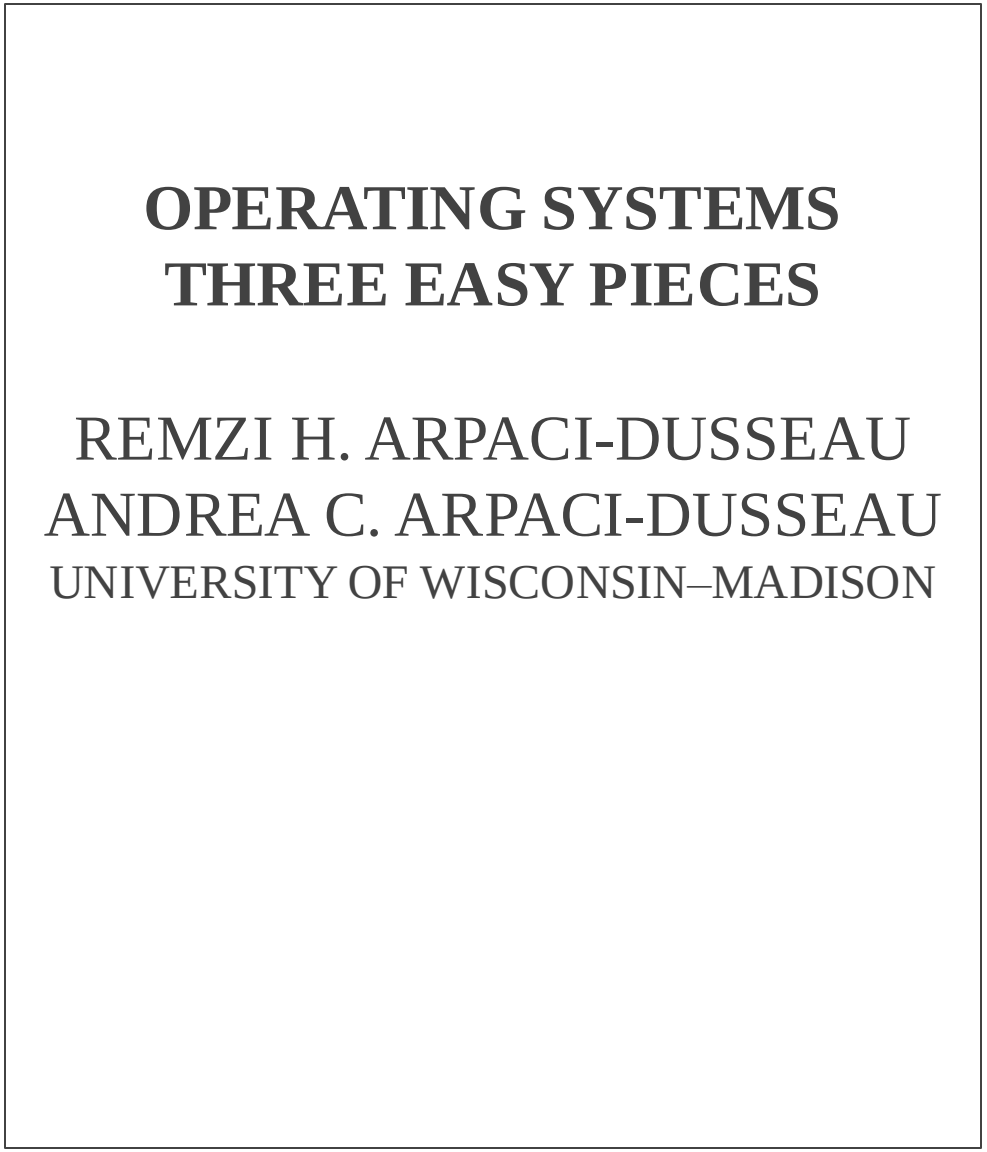
1. Lectures
2. Reading
3. Homework Assignments
4. Programming Assignments
5. Exams

You are expected to keep up with all five

Draft Syllabus

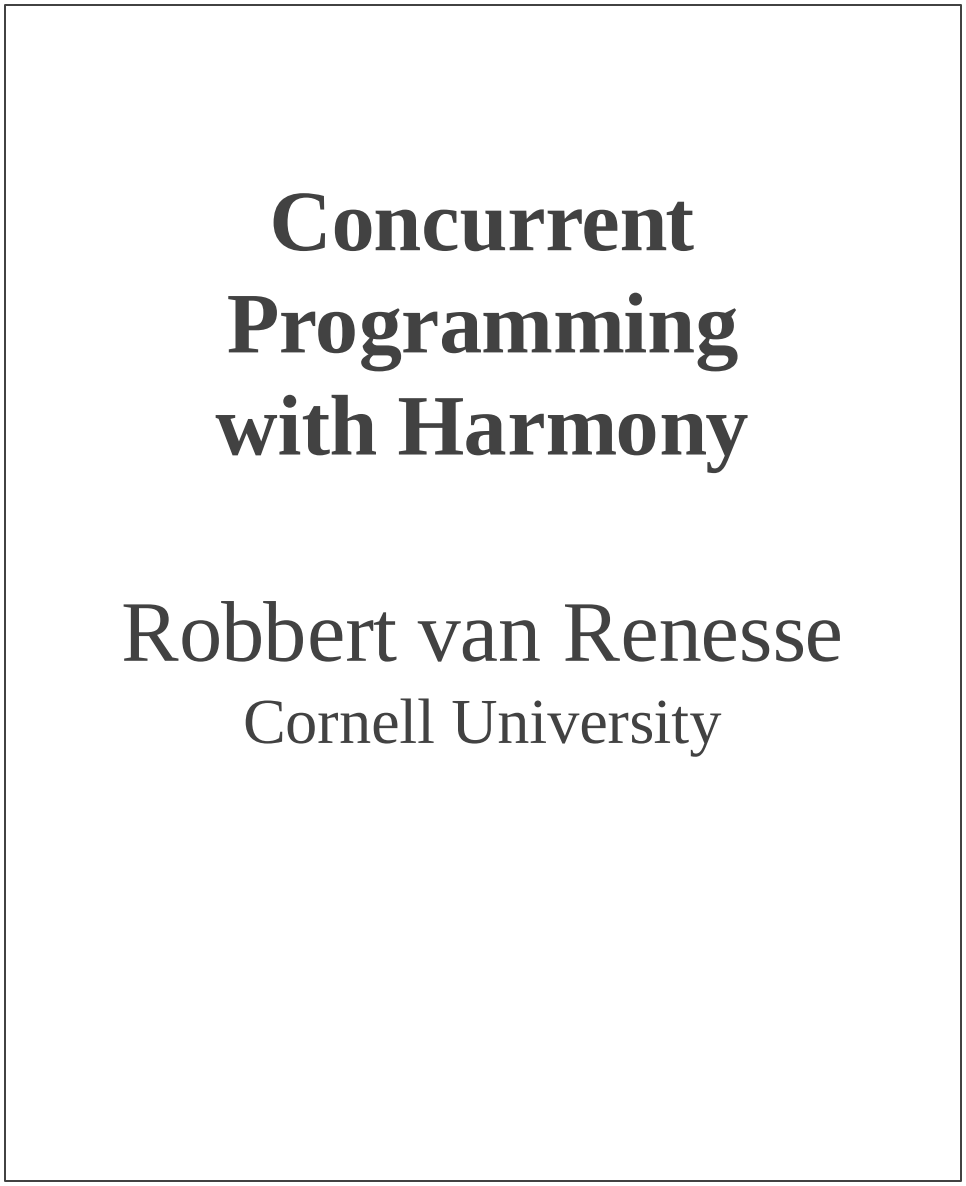
- Introduction
- Architectural Support for OSs
- Processes and Threads
- Concurrent Programming
- Scheduling
- File systems
- Memory Management

Required Textbook



- Free online
- Buy a PDF or a printed version

Also: RVR's book



- Free online
- Free PDF download, or read online

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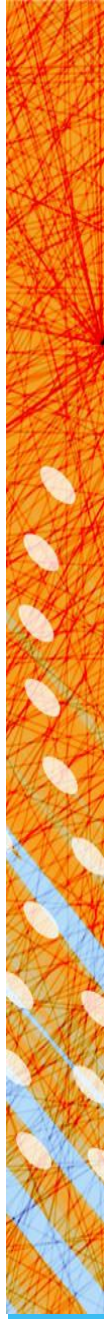
- Grades & Policies

Communications

- Web page
- Lectures
- Ed Discussion
- Office Hours
- CMSX



Course Web Page

`http://www.cs.cornell.edu/courses/cs4410/`

- Schedule
- First homework assignment posted on web page
  - Due Friday at midnight (no slip days)
- Slides updated before each lecture

Let's have a look around at the web site

CMSX

`https://cmsx.cs.cornell.edu`

- Assignments
- Grades & Regrades

Lectures

- Tues/Thurs 10:10-11:25pm, live
- No recording

- Recitations
  - Usually Saturday
  - See schedule on course web page

Office Hours

- Slots will be posted on course web site
- *Starts Monday next week*
- Some may be on Zoom

Ed Discussion

- Anonymous to other students, but not anonymous to us
- Ask anything you want, but do not share code unless posted privately to staff
- Provide peer-to-peer help
  - Each student should feel safe, welcome, respected
  - Respect diverse talents and ways of learning

Email

cs4410-staff@cornell.edu: time sensitive matters

- Goes to professors & TAs

cs4410-prof@cornell.edu: *sensitive* matters

- Goes to RVR only

Please no emails to personal email accounts

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Homework

- Assigned approx. once every other week
- Individualized, fillable PDFs
  - (slight) randomization of problem parameters, multiple choice questions, etc.
  - Fully auto-graded (no TAs involved)
  - Regrade requests due within a week
- 2 slip days / assignment (not HW1)
- Max. 6 slip days total
- Your “worst” homework is dropped
  - this does not apply to programming assignments

Homework 1 due Saturday!

- Posted on CMSX and on course web site
- Must be submitted on CMSX
  - request an account (but not today)
  - however, having an account on CMSX does not mean you've been enrolled

Programming Assignments

- three different concurrent programming assignments
- work in groups of 2 or 3 students, or do it by yourself if you prefer

Group Code of Conduct

- Each student should feel safe, welcome, respected
- *Participate, but don't dominate*
- Be patient
- Respect diverse talents and ways of learning
- Fight your implicit biases

A well-run team benefits all participants

Academic Integrity & Honor Code

All submitted code must be your own

- Different groups are not allowed to share code
- OK to discuss concepts with any other students
- Do not use AI

Violations will be prosecuted

Exams

- 2 prelims (March 13, April 22), 1 final (mid May)
  - make-up and exam are back-to-back
    - *no other make-up exams, no exceptions*
  - total score:
    - if you take all three exams, average of final and best of the two other exams
    - if you take two or fewer exams, simply the average
- Old exams posted
  - https://www.cs.cornell.edu/courses/cs4410/2025sp/exams/
  - Can only be accessed on Cornell network
- Includes questions about lectures, homework, books
- Cumulative
- If you miss more than 1 exam, make sure to get doctor's notes

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Academic Integrity

Why not cheat?

- It hurts you in various ways:
  - You won't do well on exams
  - It reduces the value of your Cornell degree
  - It stresses you out because you might get caught
  - You won't feel good about yourself afterward
  - The energy that goes into cheating is better used for learning (studying for the exams)
  - High-risk, low reward
- It hurts other students:
  - It stresses them out

If you need help, get it early

Semester Grades

10% Homework Assignments
30% Programming Assignments
60% Exams

- No "curving"
  - CS4410 is not a competition
  - Your grade reflects your learning objectives, not how well you did compared to others
  - Goal is to give everyone an A
- Weighing of individual assignments TBD

Letter Grade

- Semester grade: 10% homework, 30% programming, 60% exams

A+	96⅔% - 100%	A	93⅓% - 96⅔%	A-	90% - 93⅓%
B+	86⅔% - 90%	B	83⅓% - 86⅔%	B-	80% - 83⅓%
C+	76⅔% - 80%	C	73⅓% - 76⅔%	C-	70% - 73⅓%
D+	66⅔% - 70%	D	63⅓% - 66⅔%	D-	60% - 63⅓%
		F	0% - 60%		