ELE 206/COS 306: Contemporary Logic Design
Course Information
Christopher G. Brinton and Sharad Malik
Fall 2018

Accessible Help
- Instructors
  - Sharad Malik
    - sharad@princeton.edu, 8-4625, B212 EQuad
    - Office Hours: Monday and Wednesday 4:30pm-5:30pm. I am also glad to meet with you outside of office hours, just drop by my office, or if you prefer, set up a meeting time by email.
  - Christopher G. Brinton
    - Office: C330 EQuad
    - Email: cbrinton@princeton.edu
    - Office Hours: Officially Tuesday and Thursday 3:00pm-4:00pm, but feel free to drop by my office any time I am there. You can also email me to ask questions or to set up a time to meet.
- Teaching Assistants
  - Graduate: Responsible for Problem Sets, Lab Assignments, and Sunday Precept
    - Bo-Yuan Huang (byhuang@princeton.edu) [Head Grad TA]
    - Murat Ozatay (mozatay@princeton.edu)
    - Nayana Prasad Nagendra (nagendra@princeton.edu)
    - Hooman Saeidi (hsaeidi@Princeton.edu)
    - Tanujay Saha (tsaha@princeton.edu)
    - Boyu Wang (boyuwang@princeton.edu)
  - Undergraduate: Available for help with Lab Assignments
    - Samuel Hsia (samuel.hsia@princeton.edu) [Head Undergrad TA]
    - Harshvardhan Babla (hbabla@princeton.edu)
    - Steven Chien (sc41@princeton.edu)
    - Liam Collins (liamc@princeton.edu)
    - Clare Cook (cbcook@princeton.edu)
    - Caeley Harihara (harihara@princeton.edu)
    - Kevin Liu (kl16@princeton.edu)
    - Markos Markakis (markakis@princeton.edu)
    - Daniel Sturm (dsturm@princeton.edu)
    - Elizabeth Tian (etian@princeton.edu)
    - Vivian Yu (vmyu@princeton.edu)
    - Joseph Zhang (zhaoz@princeton.edu)

Lectures
- Lectures will be in Friend 101 on
  - Tuesday 1:30-2:50pm
  - Thursday 1:30-2:50pm

Each lecture will be given by one of the instructors.
- We expect the lectures to be very interactive. While we will follow the text[1] quite closely, classroom interactions are critical in gaining insight into the *Why* of what we will be studying, over and above the *What* and *How* that is mostly the focus of the text. This is key to getting a broader appreciation of the discipline, understanding how the field evolved and where it is headed.
- We recognize that we have all become highly efficient at multi-tasking. However, in the interest of all of us getting the most out of this class, we would like you not to use any screens (laptops, tablets, phones, watches…) and participate fully in the class.
- We will make the lecture slides available on blackboard by midnight on the day before class. We would strongly encourage you to print these and get your paper copy to class to annotate during the lecture.
- We hope to provide a screencast of our lectures on blackboard by the end of the day of the lecture (the recorded slideshow with handwritten annotations and the voice-over from the lecture).

Assignments
- <u>Key Ideas</u>: This assignment asks you brief questions that capture the key ideas covered in class (total response is <50 words). This is due *on blackboard* before the next class. We hope you will find this useful in distilling the important ideas from the inevitable details associated with them – help separate the forest from the trees. You can turn in this assignment even if you were unable to attend class that day. <u>You need to turn in only 15 of these through the semester.</u>
- <u>Weekly Problem Sets</u>: These will be posted on Blackboard on Tuesday and are due as a hardcopy (unless otherwise stated) by the end of the following Monday (midnight). You can submit these in the drop box in the lab. We would like you to work in groups of two, preferably with a different partner for each problem set. You should turn in a single solution, but share the writing and write your name next to the answers that you write.
- <u>Help with assignments</u>: There will be two optional precepts in Equad B-205:
  - Thursday, 6-7pm: Here we will reinforce concepts covered in class and walk through additional example problems similar to the problem sets.
  - Sunday, 7-8pm: This will be a question and answer session for the problem sets.
- In addition, you can ask questions by email, on the course piazza site or meet with us.

Lab
- The primary goal of the lab assignments is hands-on learning through designing and building/testing logic circuits of increasing complexity. You will build circuits by writing software models in a hardware description language (Verilog[2]), and by using programmable logic chips.
- We will use the EE Undergraduate Lab (F110) for our work on this course.
- There are four weekly lab assignments, followed by a short project (2 weeks) and a final course project (3 weeks).
- Lab assignments will be handed out on Thursday and will be due on Wednesdays by the end of the day (midnight). Any files associated with a lab will need to be turned in on blackboard.
- You will be working individually for Labs 0-3 and with a partner for Lab 4 and the projects.
- You can complete the work required at your convenience. Starting Thursday, September 20, the TAs will be available in the lab to work with you on:

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[1] Digital Design, Frank Vahid, 2nd Edition, Wiley Publishers.
[2] For the Verilog portion of the labs, the following book may be useful: Verilog for Digital Design by Frank Vahid and Roman Lysecky, Wiley Publishers. We also have a self-contained tutorial that covers what is needed for this course.

- Thursday   3-5pm
- Sunday   5-7pm
- Monday   8-10pm
- Tuesday   3-5pm   8-10pm
- Wednesday   3-5pm   8-10pm
  - The first 20 minutes of each session will be devoted to covering the Verilog basics needed for that week. You need to demonstrate your (hopefully) working design to one of them during these labs sessions. You can schedule an alternate time with them if neither of these slots works for you.

Exams

- The course midterm will be in class on Thursday, November 8 (the Thursday after fall break).
- The course final will be during the final exam period.
- You may use any books and your notes for these exams. No electronic devices are allowed.

Grading

- The course grade will be based on the following distribution.

Key Ideas Assignments	5
Weekly Problem Sets	15
Lab Assignments/Projects	20
Midterm	25
Final	35

- We recognize that you may miss a deadline for multiple reasons. You have a total of 5 late days you can use through the semester for late submissions of weekly problem set/lab assignments with no penalty. (For labs the number of late dates will be determined by when both the demo and report have been completed.) Once you use them up, your late submissions will not be accepted. A late assignment may be left in the drop-box in the lab.