Welcome to EECS/BioE C106B/206A!

Professors Koushil Sreenath and Shankar Sastry

Instructors

Koushil Sreenath
koushils@
Professor

Shankar Sastry
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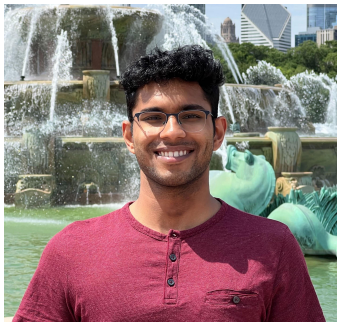
Professor

Teaching Assistants



Tarun Amarnath

Head TA
Content TA

Shrey Aeron
Head Lab TA

Kaylene Stocking
Content TA

Eric Berndt
Lab TA

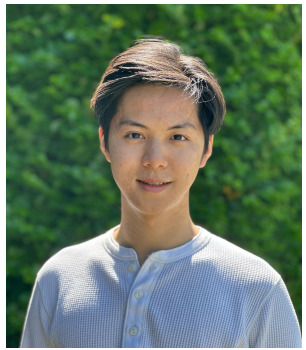
Teaching Assistants (cont.)

Kirthi Kumar
Lab TA

Mingyang Wang
Lab TA

Lab Assistants

Anuj Raichura



Charles Xu

Karim El-Refai

Chris Lai

Martin Zeng

By the end of the course you should...

- ✗ Be able to reason about and apply many robotics concepts, including kinematics, control, and vision
- ✗ Have experience implementing robotic algorithms in a variety of settings and be able to adapt to new environments
- ✗ Be ready to start performing research in the field of robotics

Prerequisites

- ✗ Knowledge of linear algebra
- ✗ Basic calculus and physics
- ✗ Programming in Python
- ✗ **Curiosity** about how things work
- ✗ Interest in **experimental work**
- ✗ **Willingness to explore**

Enrollment

- Don’t know how many people will drop; class will not expand :(
- We have no control over enrollment; speak to advisers
- If you are a grad student in 106A, you may not get credit for the course

Class Resources

- Website (home to almost everything - policies, links, resources, etc.)
  - https://ucb-ee106.github.io/eecs106a-fa23site/
  - **tinyurl.com/106a-fa23**
- bCourses - lecture slides and recordings
- Gradescope - code K328WG
- Ed - for questions

Whom to ask

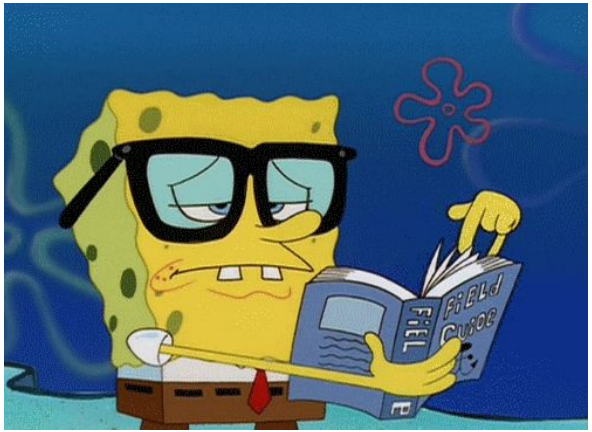
- Homeworks: Kaylene and Tarun
- Administrivia: Tarun or Shrey for lab stuff
- Labs: Any Lab TA

Post on Ed for fast responses!

Please stay up-to -date!

- ✗ Weekly Announcements (released Sundays) are required reading
- ✗ Check if your question has been answered
- ✗ Course Policies
- ✗ Ed

Be a sponge absorbing knowledge:



Lectures

- Dwinelle 145
- Tu/Th 2:00pm-3:30pm
- Recorded for asynchronous viewing/review
- Topics can be found on the course website

Discussions

- Thursdays 4-5pm*, Friday 2-3pm (Cory 540AB), Friday 3-4pm (Cory 521)
- Recorded for asynchronous watching and review
- Lecture review + problem solving
- Do not have to attend the section you're enrolled in on CalCentral (though I think everyone is in the 999 section right now)

Homeworks

- Released Wednesdays, due the following Tuesday
  - Homework 0 is already out!
  - Due this coming Tuesday
- Continues until MT 2
- 5 slip days, max 2 per homework
- 1 HW drop for *both* post-midterm surveys!

Midterms

- Thursday, September 28th
  - Rotations, kinematics
- Thursday, November 16th
  - Vision, Jacobians, control
- Held during class
- DSP students will get accommodations as needed
- No final exam!

Labs

- Begin next week!
- We used Sawyers (robot arms) and Turtlebots (decked out Roombas)
- **Sign up for a lab!!! 8:30pm!!! Tonight!!!!!**
  - https://tinyurl.com/106a-fa23-sections
  - Only if you're fully enrolled
  - Waitlist students will do the labs on their own time and checked off in OH
  - At least 2 people in lab room at a time!

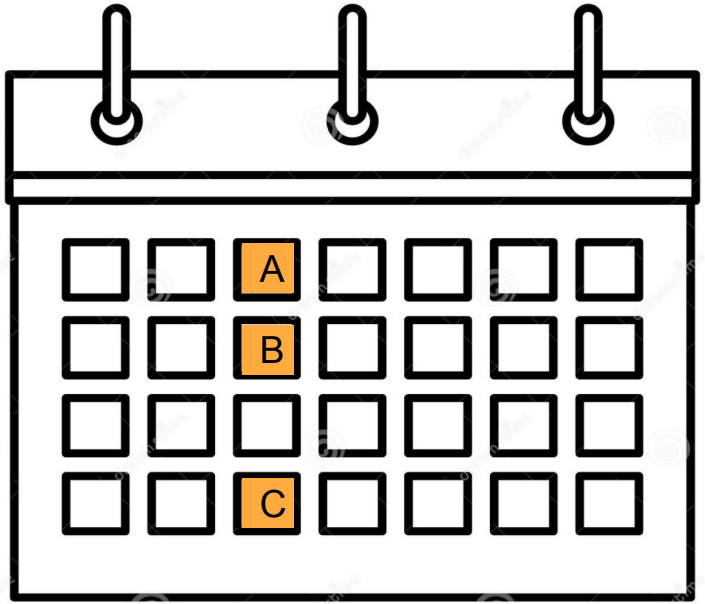
Buffer Weeks (starting with lab 3)

Week 1: Half the section works on arms (A), half the section works on mobile robots (B)

Week 2: Switch hardware and labs

Week 3: Buffer week (full credit for both labs)

Both labs before the lab section for Lab C



Final Project

- A chance to put together all of your skills!
- Students choose their own final projects after approval from course staff.
- Components of sensing, planning, and actuation
- Demonstrate good designer/experimentalist rigor:
  - What did you measure? What are your assumptions? What did your measurements tell you?
  - How did you evaluate your results? How do you account for error?
  - What lessons did you learn?
    - How does this fit into a grander scheme of things?
- Will have some research projects

Project Timeline

- All labs and homework end after MT 2 to give you more time to work on this!
- Regular check-ins to ensure progress

Assignment	Due Date
Final Project Released	09/28
Mini Proposal	10/06
Mini Proposal Feedback	Week of 10/08
Final Proposal	10/20
Check-In 1	11/09
Check-In 2	Week of 11/26
Presentation Day 1	12/07
Presentation Day 2	12/08
Website Due	12/15

Office Hours

- Schedule on the website
- Most will be in Cory 105 (lab room), except for professor OH
- Start next week, but Tarun will be there today 7-8pm for logistics questions

Grade Breakdown

Homeworks	20%
Labs	20%
Midterms	30%
Final Project	30%

EPA

- ✗ Up to +2% extra credit! (equivalent to a homework drop)
- ✗ Ways to earn EPA
  - ✗ attending lecture
  - ✗ answering questions on Ed
  - ✗ engaging in discussion & lab mini-lecture
  - ✗ volunteering to help others when stuck

This class is NOT an easy A.

We source our course grade data from Berkeley's official CalAnswers database.

EECS C106A

Introduction to Robotics

Fall 2022 / 1 • SASTRY, S

Course Average

A- (3.693)

Section Average

A- (3.756)

95th-100th Percentile

A+ (6/127, 4.7%)

Advice

- ✗ Do all the assignments diligently! Homeworks, labs, project, etc.
- ✗ Keep up with lecture!
- ✗ Come to discussions!
- ✗ Come to OH and HW Party!
- ✗ Form study groups!
- ✗ Start early!

Tarun Amarnath 11:49 PM
last year's logistics slides are gross bleh

i will make better ones

does not know how to check slack 12:16 AM
uh oh

Tarun Amarnath 12:42 AM
Morning problem

I too sleepy

does not know how to check slack 9:33 AM
is it a right before lecture problem

Tarun Amarnath 10:35 AM
I have back to back lectures before 106a

does not know how to check slack 10:35 AM
during lecture problem

Tarun Amarnath 10:35 AM
But ya still a before lecture problem LOL

OH RRUE

TRUE

does not know how to check slack 10:35 AM
we should screenshot this and put it on the slides

Tarun Amarnath 10:35 AM
Agreed

To-Do This Week

- ✗ HW 0 due next Tuesday
- ✗ Sign up for lab tonight @ 8:30pm!

This class is hard! But so rewarding!

- It’s okay to be confused and to ask many questions!
- We encourage you to collaborate and explore. You get out what you put in.
- As always, course staff is here to support you as students AND as people

Any questions?

Happy to field questions offline, on Ed, or at tarunamarnath@berkeley.edu