Statistics 303
The Art of Communicating and Teaching Statistics
Department of Statistics and Derek Bok Center for Teaching and Learning
Harvard University
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Office Hours: by appointment

Class Meetings

Meetings are from 3-5pm on those Tuesdays specified in the schedule. Class will begin at 3pm sharp.

This will be a year-long course, usually meeting in Science Center 706.

Course Related Web Pages

For general course information and updates, please refer to the course web page:
https://canvas.harvard.edu/courses/128250

For teaching-related questions and other useful resources, please refer to:
https://bokcenter.harvard.edu/

For course communication and collaboration and submitting assignments, please refer to the course Slack Workspace (which can be joined through Canvas):
stat-303hfb-s24-l2s.slack.com

Goals and Prerequisites

The goal of this course is to provide skills and a foundation to help in your journey towards becoming a good teacher and an effective communicator of statistics. There are several by-products of being a good teacher. If you master the art of teaching, and in particular, teaching Statistics, you will not only become successful in your teaching career but also an excellent presenter, acquiring effective communication skills and easing any stage fright you might have. Good communication skills, both orally and in writing, are essential in your professional and personal life, no matter what career goals you have set.

As some of you come from different educational and cultural backgrounds, we understand that you may consider teaching in an American classroom a challenge. We are here to supply the necessary tools and techniques to help you meet this challenge. Equipped with what you learn in this course, you will look forward to your first class as a Teaching Fellow.

Over the course, you will be given numerous opportunities to practice teaching as well as writing. Through suggestions and comments from the teaching staff and peer reviews, you will gradually learn what works well in the classroom (and what doesn't). If you consciously make an effort to follow these guidelines in the classroom, we are confident that you will be appreciated and recognized as an excellent TF by your students.

All first year Statistics Ph.D. students are required to take this course. Others who are interested in taking the course may talk to the instructors. There is a cap on the number of students allowed to take this course for credit. Therefore, the instructors reserve the right to decide individual enrollments on a case-by-case basis.

Texts and References

For presentation material, here are two free online textbooks to find source material:

- **"Introduction to Modern Statistics"** by Mine Cetinkaya-Rundel, and Johanna Hardin:
  - https://www.openintro.org also has other open resources (including two other texts) for teaching statistics
- **STAT 110** Textbook ("***Introduction to Probability"*** by Joseph K. Blitzstein and Jessica Hwang):
  - https://projects.iq.harvard.edu/stat110/home has additional resources

For interesting examples and activities: "***Teaching Statistics: A Bag of Tricks,"*** by Andrew Gelman and Deborah Nolan, an excellent reference for a Statistics TF. This book is available online (for free) via Harvard Hollis.

Course Requirements

- Active participation in every class meeting is expected and encouraged.

- You will complete small writing assignments before and/or after some of the sessions; see the schedule for details.
- You will give three practice presentations during the Practice Teaching sessions in the fall and one in the spring; following this, you will teach a day of an actual section (subject to change).
- You will be required to visit the session of an experienced TF early in the fall semester and report your observations.
- You will be required to hold one hour of office hours for an intro level class in the fall.
- You will meet individually with Longlin occasionally to view and discuss your teaching videos.

Class Expectations

We expect everyone in this course to actively participate and engage in the classroom. We also expect everyone to work towards a supportive environment where we can all improve our teaching abilities and be open to hearing different viewpoints. To that end, we expect that you will treat everyone else, whether it is a classmate or a TF whose section you are attending, with respect. We also expect that criticism (since we all need to improve in some way) will be constructive, polite, and well intentioned.

Maintaining a course notebook

You will be expected to keep a dedicated notebook throughout the year, where you will reflect on course topics at the beginning and end of each class. This can be either an electronic notebook (recommended to make submitting assignments easier) or a paper notebook and should be brought to every class. The notebook is ultimately for *you* to keep a record of your thoughts, experiences, questions, and concerns about teaching and communicating statistics, but from time to time you may be asked to submit passages or logs for course credit.

Your Comments and Suggestions

We always welcome your comments or suggestions. Please feel free to tell us your opinions about any aspect of the course. Email is the most effective way to get in touch with us. You can also write us an anonymous note and drop it in our mailboxes, located in the 400 suite of the Science Center.

SPRING 2024 Schedule

The tentative schedule can be found here.