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Schedule, readings and assignments - Fall 2014

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Meeting 1 (Mon 25 Aug) - Practicalities - your first day of class

Optional reading:

"[Syllabus Construction for Math TAs](#)" - talk by Jane Butterfield (UIUC Math); see also the long syllabus by M. Tip Phaovibal ([TeX](#) and [PDF](#)), or shorter syllabi by [Kelly Funk](#), [Michelle Delcourt](#) or [Melinda Lanius](#).

In class: we will discuss we will discuss getting to know your students, setting expectations, responding to questions

Data to ponder: [PhD numbers are growing rapidly](#), [Fewer than half of PhD graduates get postdocs](#), [More students are choosing nonacademic jobs or jobs abroad](#)

No class on Labor Day (Mon 1 Sep)

Assignment due: turn in your [student information sheet](#) to Professor Laugesen's mailbox or office, and attach a separate sheet in which you briefly report on: 1) what you did last week to get to know your students, 2) what you did to establish behavioral expectations in your class, 3) using the Four Step method for answering questions. Do you feel your actions were successful?

Meeting 2 (Mon 8 Sep) - Active Learning Discussion I

The readings and assignment for today examine: reasons for using active learning, examples of active learning work, theory and practicalities of group formation, and group management.

Preparation:

Rishel pp. 31-32 "Cooperative learning"; [Quick start for UIUC Math active learning](#); Friedberg (CBMS) pp. 31-34 case 7 "[Pairing Up](#)" (password protected page)

Assignment due: Turn in your answers (roughly half a page total) at the **beginning** of class. Be sure to follow the [course policies](#) on assignments.

1. Which of the "cooperative learning" methods described by Rishel (pp. 31-32) have you encountered in your own university education? Very briefly describe your experiences.
2. Briefly describe one aspect of Shalini's approach in "Pairing up" that goes against the advice in the UIUC "Quick Start" guide, and one aspect that agrees with the UIUC guide.

In class: We will work through a case study, focussing on the TA role in active learning (what to do, and what not to do).

Meeting 3 (Mon 15 Sep) - Traditional Discussion I

Preparation:

Rishel pp. 11-12 "What goes on in Recitation", 62-63 "Lesson planning"

Assignment due:

1. Give the [Nuts & Bolts](#) early evaluation to your own discussion section, before Monday 15 September. (If you are not teaching this semester, or if you absolutely cannot spend 5 minutes on the feedback exercise in class, then please let me know by email.)
2. Analyze the results and turn in a short summary: look for items where you are consistently getting "average" or "below average" ratings. Think about what might be causing that perception among students. Discuss any other notable features of the feedback from your students, such as any highly positive ratings.

In class: We will consider Rishel pp. 51-52 "Course evaluations", and will plan what you can say to your class at the next meeting to acknowledge that you have heard the feedback and are making adjustments accordingly. We will also examine lesson planning for traditional discussions, and exam review sessions.

Optional reading for after class: [Faculty Thoughts and Concerns About Student Ratings](#) by John Ory (U of Illinois). The article is written in a lively style, as a coffee-shop conversation between the author and various faculty colleagues. Highly

[recommended!](#)

Meeting 4 (Mon 22 Sep) - Active Learning Discussion II

Preparation:

Felder and Brent's article "[Cooperative learning](#)"

Assignment due:

1. Contact one of the following TAs **right now**, and ask to visit their active learning discussion section **by Friday September 19:**

Mastroeni, Matthew - Math 231 EDX at TR 10:00-10:50 in 345 ALTGELD Supervisor: Bronski, Jared
Mastroeni, Matthew - Math 231 EDV at TR 11:00-11:50 in 241 EVERITT Supervisor: Bronski, Jared

Orlow, Nathan - Math 231 EDQ at TR 8:00-8:50 in 141 ALTGELD Supervisor: Bronski, Jared
Orlow, Nathan - Math 231 EDT at TR 9:00-9:50 in 143 ALTGELD Supervisor: Bronski, Jared

Petrickova, Sarka - Math 231 EDD at TR 11:00-11:50 in 143 HENRY BLD Supervisor: Bronski, Jared
Petrickova, Sarka - Math 231 EDL at TR 12:00-12:50 in 140 HENRY BLD Supervisor: Bronski, Jared

Rasekh, Nima - Math 221 ADA at TR 8:00-8:50 in 239 ALTGELD Supervisor: Gilbert, Rebekah
Rasekh, Nima - Math 221 ADB at TR 9:00-9:50 in 239 ALTGELD Supervisor: Gilbert, Rebekah

Wang, Xiao - Math 241 BDL at TR 10:00-10:50 in 443 ALTGELD Supervisor: Tolman, Susan
Wang, Xiao - Math 241 BDE at TR 12:00-12:50 in 145 ALTGELD Supervisor: Tolman, Susan

Weigandt, Anna - Math 241 CDD at TR 11:00-11:50 in 151 ALLEN HALL Supervisor: Cellarosi, Francesco

Wolbert, Seth - Math 221 EDD at WF 1:00-1:50 in 145 ALTGELD Supervisor: Watts, Jordan
Wolbert, Seth - Math 221 EDC at WF 12:00-12:50 in 243 ALTGELD Supervisor: Watts, Jordan

Zhou, Sishen - Math 231 ADD at TR 11:00-11:50 in 168 EVERITT Supervisor: Ahlgren, Scott
Zhou, Sishen - Math 231 ADT at TR 1:00-1:50 in 443 ALTGELD Supervisor: Ahlgren, Scott

(The TA might decline your request - for example they might already have other people observing that day. Or it might not be a suitable day to visit e.g. if the class is having an exam this week.)

Here are your tasks:

1. During the visit, follow the [Classroom Observation Guidelines](#) by Sorcinelli.
2. Write a 1 page report on your visit that includes an assessment of the five elements on page 2 of Felder and Brent's article "[Cooperative learning](#)".
3. You are welcome to visit in pairs, and write a joint report.
4. If you give feedback to the TA, then follow the Post-Observation Guidelines in Sorcinelli's article.

In class: we will examine the TA role in setting the scene, giving hints, achieving closure, and creating active learning materials. Bring your copy of the article by Felder and Brent.

Meeting 5 (Mon 29 Sep) - Exams and Grading

Preparation: Rishel pp. 21-25 "Grading issues"; Keith-Spiegel [case 10-3](#) (proctoring and cheating)

Assignment due:

Imagine you are a professor in this department. How might you use Cooperative Learning in:

- an undergraduate course?
- undergraduate research?
- a graduate course?
- graduate research?

Choose one of these options. Be as specific as possible about the type of activities you would use with the students, and explain which Cooperative learning structures seem suitable for your activities (see pages 3-4 in Felder and Brent). Assess how well your proposal meets the 5 conditions on page 2 of Felder and Brent.

In class: we will examine what makes a good undergraduate exam, and inquire into the purpose of grades.

Meeting 6 (Mon 6 Oct) - Traditional Discussion II*Preparation:*

Rishel pp. 43-44 "The active classroom"; Felder and Brent "[Active learning](#)";

Assignment due:

1. Contact one of the following TAs **right now**, and ask to visit their traditional discussion section **by Friday October 3:**

Gehret, Allen

Math 415 ADU at T 10:00-10:50 in 149 HENRY BLD Supervisor: Hieronymi, Philipp

Math 415 ADG at T 2:00-2:50 in 441 ALTGELD Supervisor: Hieronymi, Philipp

Math 415 ADL at R 10:00-10:50 in 149 HENRY BLD Supervisor: Hieronymi, Philipp

Math 415 ADP at R 2:00-2:50 in 143 ALTGELD Supervisor: Straub, Armin

Nell, Travis

Math 415 ADZ at T 3:00-3:50 in 2 ILL HALL Supervisor: Hieronymi, Philipp

Math 415 ADI at T 4:00-4:50 in 143 HENRY BLD Supervisor: Hieronymi, Philipp

Math 415 ADQ at R 3:00-3:50 in 147 ALTGELD Supervisor: Hieronymi, Philipp

Math 415 ADR at R 4:00-4:50 in 143 HENRY BLD Supervisor: Straub, Armin

Oyengo, Michael Obiero

Math 415 AD4 at R 11:00-11:50 in 2 ILL HALL Supervisor: Hieronymi, Philipp

Math 415 ADE at R 1:00-1:50 in 2 ILL HALL Supervisor: Hieronymi, Philipp

Math 415 ADO at T 1:00-1:50 in 2 ILL HALL Supervisor: Hieronymi, Philipp

Math 415 ADV at T 11:00-11:50 in 2 ILL HALL Supervisor: Hieronymi, Philipp

Follow the [Classroom Observation Guidelines](#), except you may skip the pre-conference, and it is optional to give feedback to the TA. Specifically look for features described in the reading by Rishel pp. 43-44 and the article by Felder & Brent "[Active learning](#)". Write a report (1/2 page to 1 page) that describes the features you observed, and also suggest something the TA could have done in class that is suggested by Rishel, and something the TA could have done that is suggested by Felder & Brent. If you write the report jointly with another student, then you must explain the contribution each of you made to the report, and both sign the report.

In class: we will discuss suggestions from the reading about how to keep students lively and engaged in a traditional discussion setting, and then we will tackle a case study (time permitting).

Meeting 7 (Mon 13 Oct) - Cultural issues*Preparation:*

excerpts from [Sarkisian](#) and [McKeachie](#).

Then take the "[Social Attitude](#)" [Implicit Association Tests](#) on "Skin tone" and "Religion". (You will **not** report your results to the class.) You are welcome to [read more](#) about implicit association tests and their interpretation at the [Wikipedia](#) article, and the links therein. Finally, read [Hot Moments in the Classroom](#) - these are delicate issues, and this week we might encounter issues that generate strong emotional reactions.

Assignment due: None. A "Satisfactory" grade for the day will require you to arrive with a hard copy of each of the readings, showing visible notes and evidence of the reading having been done seriously.

In class: we will investigate some expectations that students and instructors can bring to the classroom, with particular attention to cross-cultural issues.

Meeting 8 (Mon 20 Oct) - Ethical issues in research/professionalism I*Preparation:*

1. Skim [A Framework for Making Decisions](#) from U. of Illinois Bus 101 (Prof. C. K. Gunsalus). We will use this in class to analyze case studies.
2. Read about the [many types of rationalization](#) (Ethics Alarms blog). During the case study in class, you will be asked to employ (and recognize) these rationalizations - so bring a hard copy or electronic file of the article with you.

Assignment due: None.

In class: we will analyze a case study about ethical issues in teaching, and will discuss resources available to you in the department and on campus, when faced with an ethical problem.

Meeting 9 (Mon 27 Oct) - Careers I - academic options

Panellists: Prof. Olcay Akman (Illinois State U.), Prof. Stephanie Alexander (U. of Illinois), Asst. Prof. Daniel Roberts (Illinois Wesleyan U.).

Preparation: Examine the following data on salaries:

[AAUP Report on the Economic Status of the Profession](#) (first skim the "Explanation of Statistical Data", and see "Appendix I State Tables" to get information on specific institutions).

Look up the AAUP report for the institutions of our three panellists, to find the *category* of each institution (and the definition of that category) and to find *salary data* on "Instructors" (non-tenure track) and on "Assistant Professors" (tenure track).

Comments: 1. Salaries in Mathematics are generally lower than these institutional averages. 2. "Instructor" and "Lecturer" are renewable positions, focussed on teaching and with no research expectation. 3. "Visiting assistant professor" is a temporary position, of lower status and salary than a named postdoc; the focus is on teaching, although there can be some research expectation. 4. The salary for Doob Postdocs in our department last year was about \$51,000.

Assignment (turn in after the panel): 1. Think of three questions you want to ask our panelists about mathematical careers at the three main types of institution (research-oriented university, teaching-oriented university, liberal arts college/university). Note that Illinois State is somewhere in the middle of the first two types, since it offers a Masters program in Mathematics (although not a PhD program). 2. Report on the salary data you found in the "Preparation".

After the Panel: drop-in session for academic job-seekers; bring your application materials (CV, research statement, teaching statement, cover letter) and get on-the-spot feedback from our panelists. Location: 259 and 243 Altgeld Hall.

Meeting 10 (Mon 3 Nov) - Ethical issues in research/professionalism II

Preparation:

Read the Markkula Center's [Framework for Thinking Ethically](#). You will need to know the "Five Approaches" during class.

Get the book *Blind Spots: Why We Fail to Do What's Right and What to Do about It* by M. H. Bazerman and A. E. Tenbrunsel (on reserve at the Mathematics Library) - read from the bottom of page 11 through 13, and read Chapter 4 *Why You Aren't as Ethical as You Think You Are* (or download pdf file [here](#)).

Assignment due:

1. Analyze Rishel Case VIII or Case IX (you may choose) using the [UIUC Framework for Making Decisions](#).
2. Also, write a 3 line "personal script" that you would use to argue with the instructor (in Case VIII) or to respond to the second student (in Case IX).

In class: we will analyze a case study about an ethical issue, and do a role play about possible responses.

Meeting 11 (Mon 10 Nov) - Gender issues in the mathematical community

Preparation: The reading this week consists of thought-provoking blog posts by Izabella Laba on [Gender Bias 101 for Mathematicians](#) and [Diversity and mathematics](#), and a post in response by Paul Siegel on [Gender and the Mathematical Community](#), and this magazine article on [two-body problems in science](#).

Optional if you have extra time: read the New York Times article on [Why So Few Women in STEM?](#), and pages 111-122 and 146-147 of *Blindspot: Hidden Biases of Good People* by M. R. Banaji and A. G. Greenwald (on reserve at the Mathematics Library), the in-depth article [Bias Literacy](#), and skim the resources on [Subtle Gender Bias and Institutional Barriers](#).

Assignment due: Complete this [anonymous survey](#) and turn it in to Marci Blocher by NOON on Monday November 10. Do **not** write your name on the survey.

Comment: The reading aims to help you understand how other people experience certain situations in the mathematical community. The survey invites you to reflect on your own experiences. There are no right or wrong answers.

In class: we will discuss questions based on the readings, and examine results from the survey

Meeting 12 (Mon 17 Nov) - Careers II - networking and applying for nonacademic jobs and internships

Preparation: Read the [overview of résumés](#) at the Graduate College Career Development website, and see the [samples of different types of résumés](#). Read about how to [prepare a strong application](#).

Assignment due: Write a rough draft of a résumé suitable for a nonacademic job or internship. Aim it at an actual position with an actual company. Your résumé should use keywords from the job ad. To turn in: the job advertisement, and the rough draft of your résumé.

In class: presentation and discussion on "[Résumés and Finding Jobs](#)" with [Jennifer Kim](#) (Assistant Director for Employer Outreach, Graduate College).

Consulting resources:

[Profiles and listings of consulting firms](#)

[Illinois Business Consulting](#) (great way to get consulting experience while at UIUC - and they **do accept students from outside the College of Business**)

No class in Thanksgiving Week (Mon 24 Nov)

Meeting 13 (Mon 1 Dec) - Careers III - Roundtable discussion on summer internships

Room: **173 Altgeld Hall (note unusual room)**

Panellists: [Stephen Berning](#), [Erin Compaan](#), [Meghan Galiardi](#), [Andrew McConvey](#), [Daniel McDonald](#), [Wei Qin](#), [Han Wang](#), [Sishen Zhou](#) (all PhD students in our department)

Preparation: Many of the panelists had internships that dealt with modeling and analyzing different kinds of information (data). So to spark your thinking, prepare by reading a few recent blogs posts on real-world applications of data science ([here](#), [here](#), and [here](#)).

Assignment (turn in after the roundtable discussion): Prepare three questions you want to ask our panelists about internships and careers in industry and government, for mathematically trained graduate students.

Meeting 14 (Mon 8 Dec) - Wrap-up & student planning for future professional development

Assignment due:

1. Finalize your résumé from Meeting 12 (you can aim it at a different job, if you have found a different one you like better). Turn in a copy of the job advertisement along with your résumé.

2. Describe your personal career goals, and your plan for professional development during graduate school.

Format: (a) Explain what kind of career you plan to seek after graduating (be specific e.g. "teaching at a liberal arts college" or "faculty member at a research university" or "research in industry, perhaps in insurance"). (b) Lay out a plan of professional development activities to pursue, for each year from now to graduation. (For academic careers, you can get ideas at the [Professional development checklist](#). For nonacademic careers, think about informational interviews and internships...)

No labels