

Find a lab bench and a partner!
Cubbies for bags next to entrance.
Pick up 5 handouts up front.

one group of 3

- Introductions
- 20.109 Philosophy Recap
- Semester-Long Workflow
- Day-to-Day Workflow
- Lab Safety
- Self-/Guided Lab Tour

The three pillars of 20.109

- Authentic investigation
 - elements of design, unknown outcomes
- Authentic communication
 - toward professional talks, writing, & visuals

We'll teach you best practices *theory + feedback*
- Extensive collaboration... (with limits)
 - group assignments should reflect equal contributions
 - individual assignments may be *discussed* together, but must reflect your own understanding and communication

Semester-long workflow

- Work in pairs
- Broader community collaboration
- Assessments
 - Major: reports and presentations
 - Minor: FNW, quizzes, notebooks, participation
 - ***Please ask if something is unclear***
 - *available over email, OH*
Small short, weekly in 16-319
before major work, long, in 16-336 or 56-322
 - ***Key to success: plan ahead and manage your time***

Day-to-day workflow




- *Hand in homework (FNW), get graded FNW back
- Announcements and/or FNW discussion
- *Quiz 1:10 sharp 10' ~3x/module
- Pre-lab interactive lecture
- Lab work
 - see wiki (aka “your friend... or frenemy” --Shannon)

* Not every day.

Electronic lab notebooks

- Flexibility and one-stop access for protocols and data
- Register for an Evernote account and 'share' your 20.109 notebook with Isaak, Noreen, and Agi
 - Isaak: imueller@mit.edu
 - Noreen: nlyell@mit.edu
 - Agi: agi.stachowiak@gmail.com
- Preparing your notebook
 - naming convention: 20.109(^F\$14)_FirtNameLastInitial
 - let me know associated email account
- More about notebooks next time!

Personal Protective Equipment (PPE)

Item	Required	Recommended
Safety glasses 	<ul style="list-style-type: none">• At hood.• When using ethanol burners.• Add face shield at UV transilluminator.	<ul style="list-style-type: none">• Large quantities of liquid or powder (even if not strictly hazardous) due to chance of irritation by splash, dust, etc.
Lab coat 	<ul style="list-style-type: none">• At hood.• In TC room.	<ul style="list-style-type: none">• See above.
Gloves 	<ul style="list-style-type: none">• Working with hazardous materials (w/r/t chem or bio).• Nitrile for greater hazards (e.g., EtBr).	<ul style="list-style-type: none">• Working with any material.• Touching gloves-on equipment.

Managing Biological Waste

Benchtop biowaste:

- all gloves
- plastic tubes
- tips, other "weak" sharps



Sharps jar:

- needles
- glass tubes and pipets



Step-can:

- bio. solids (bacterial Petri dishes)

Burn box:

- all 3 end up here!

We request p/u when full.

Additional safety notes

+ see dos/dait's

- Safe lab attire
 - close-toed shoes
 - pants or long skirt
 - feel free to bring spare clothes for the cubby
- Other waste disposal streams
 - **chemical** waste in fume hood (tubes → us)
 - **biological liquid** waste is bleached (vacuum traps)
 - see also posted sink-safe lists
- In the tissue culture (TC) room
 - lab coat, gloves: always (except today)
 - no cross-contamination with main lab! (even today)

Time for demo and tour!

There is NO notebook today.

There *is* homework due next time.

There *is* a quiz next time:

- 1) lab tour (theory and practice)**
- 2) any safety lecture/notes.**