Welcome to MIT:

The NSE Unofficial Orientation

August 31, 2017

Today's agenda

- Introductions
  - Who are we?
  - Who are you?
- Understanding NSE and the weird process for:
  - Registration and Pre-Registration
  - Core Module Classes
  - Field of Specialization Classes
  - Advisors, Research, and Funding
- Surviving American bureaucracy and living in Boston
- How to get help and guidance (on anything)
- Dinner in the ANS Lounge with Current Students

ANS is here to represent you and organize events!

- ANS – American Nuclear Society, a professional organization in the nuclear industry
- MIT ANS is a student organization to represent NSE students, also a local chapter of ANS
- All NSE students are members of MIT ANS
- Social events, professional events, input on department policies that will affect students
- Give feedback to ANS on things you want to do/see/change!

Quick fire introductions

- Name and Name to be Called
- Hometown/Country/State
- Previous School - Degree and Major
- Intended Area of Specialization/Research
- Fun/Interesting Personal Fact

Who we are!

Name	Home	Year	Field of Specialization
Patrick White	Ohio	3rd	Security and Policy
Travis Labossiere-Hickman	Tennessee	2nd	Fission
Sam McAlpine	California	3rd	Materials
Stephen Lam	Canada	3rd	Fission
Leigh Ann Kesler	Illinois	5th	Fusion
Cody Dennett	Maine	4th	Materials
Alicia Elliott	New York	3rd	Materials
Guillaume Giudicelli	France	3rd	Fission
Rachel Connick	California	2nd	Security and Policy

Who you are! By the numbers:

- 25 Incoming NSE Students
  - 13 from U.S. universities and colleges
  - 12 from international universities and colleges
- 22 PhD students and 3 MS students

Understanding how NSE works can be… confusing

Common Questions:

- Differences between registration and pre-registration?
- What exactly are the Core Module classes?
- When should I take Field of Specialization classes?
- What to know about advisors, research, and funding?

You have to pre-register and register for classes!

Pre-Register
- Mid-May for Fall Semester
- Mid-December for Spring Semester

Register Online
- Week before classes begin

Meet with Registration Officer
- Day before classes begin

Submit Final Registration
- After registration officer gives approval

Only after first semester!

Classes and units differ from most schools

- Unit to credit hour equation: 3 units = 1 credit hour
- Minimum course plus research load is 36 units

Typical Semester Class – 12 Units
12 Units ≈ 4 Credit Hours

Typical Half Semester Class – 6 Units
Normal work load just half semester of classes

Core Module Class – 6 Units
Full semester of course work in a half semester

Taking modules are an important part of the first year

- Core modules cover 6 fundamental NSE research areas
- Final exams count as written portion of qualifying exam

Fall Core Modules

First Half - 22.11 Applied Nuclear Physics (Yildiz)
First Half - 22.15 Numerical Methods (Loureiro)
Second Half - 22.12 Radiation Interactions (Danagoulian)

Spring Core Modules

First Half - 22.13 Nuclear Energy Systems (Bucci)
First Half - 22.14 Nuclear Materials (Li)
Second Half - 22.16 Nuclear Technology and Society (Kemp)

Heavy emphasis on course work in first two years

- 6 Fields of Specialization have different required courses
  - Nuclear Reactor Engineering
  - Nuclear Reactor Physics
  - Nuclear Materials
  - Nuclear Security and Nuclear Policy
  - Nuclear Science and Technology
  - Fusion

Required classes listed on NSE website:
http://web.mit.edu/nse/education/grad/phd.html

- Notes on taking other classes at MIT:
  - Classes for credit
  - Classes as a “listener”
  - Dropping classes or changing status

Quick primer on NSE PhD Qualifying Exam

- For a PhD, by the end of your second year, you must:

1. Pass all 6 Core Module Exams with at least "B" average

2. Pass 3 FOS Classes with at least "B" average

3. Have at least a 4.0 out of 5.0 overall GPA

4. Passed oral qualifying exam (given in February or May)
   - 1 hour prepared portion on topic of your choosing
   - 1 hour unprepared portion based on your FOS

Figure out research, funding, advising, offices this year!

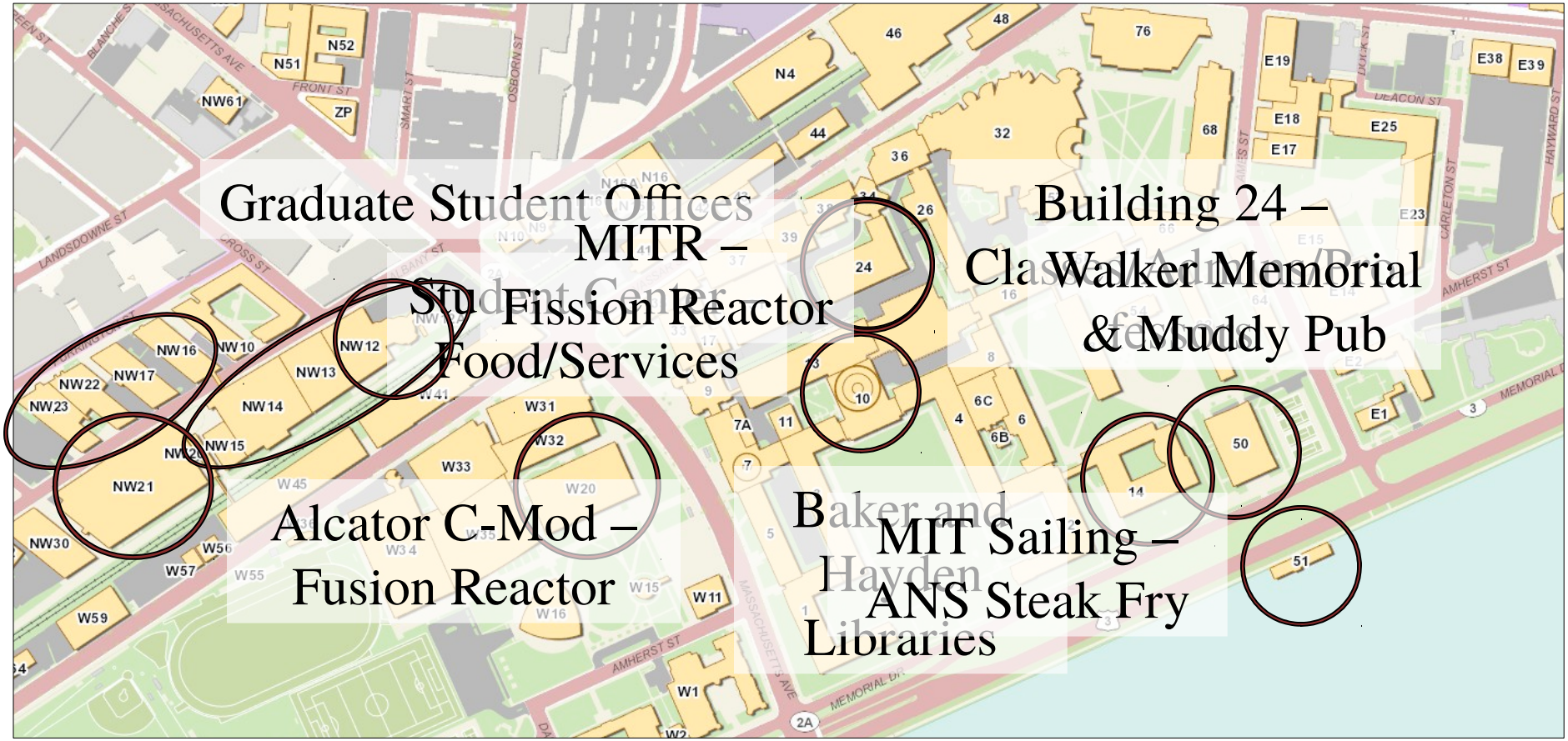
- How are/will you be funded?

  Department Fellowship External Fellowship

  Research Assistantship Teaching Assistantship

- Speak to Professors (NSE, PFSC, NRL) about research!
- Office Space - Peter Brenton rules all
  - ANS Co-Presidents advise on NW12/13/14 and Bldg. 24
  - PFSC assigns offices for NW16, NW17
  - Individual labs assign offices for NW22, NW23
  - Cappallero (Bldg. 56) and Yildiz (Bldg.13) assign their labs

Important places to know/remember on campus:



Remember to keep track of the American bureaucracy…

- For domestic and international students
  - Ensure health dental insurance coverage is active and add dental if desired.
  - Remember to file state/federal taxes by 4/15/2018!
  - Be sure to have ID (drivers license/state ID/passport) for bars/pubs (any alcohol) and music venues in MA
- For international students
  - Check with financial expert about your tax situation
  - Work with ISO to get social security numbers
  - Be aware of visa conditions if traveling internationally

Expect to need help during your first year! It's normal.

- MIT and Department Resources
  - OGE, NSE, ISO, Counseling Websites (in notes)
  - Staff (Pete, Heather, Brandy, Lisa, Nancy, others!)
  - Professors (not limited to just your advisors)
- ANS Resources
  - ANS Wiki (in notes)
  - ANS Officers (we represent you!)
- NSE Students as Resources
  - Older grad students (research group, buddy)
  - Your fellow first years (GroupMe, email, text)

Remember to sign up for the 2nd Annual Atomic Retreat!

- Join classmates for relaxation and fun in NH!
- Depart Friday, 9/22, after 6 pm
- Return Sunday, 9/24, before 12 pm
- Great 36-hour break from classes and modules!

Ask for help before you need it and have fun!

- Top five things for this semester:
  1. Register for classes next week
  2. Start working to find a research advisor/project
  3. Make a plan for classes to take in the first two years
  4. Start to get to know your fellow students
  5. Take time to relax and take care of yourself
- MIT classes are hard. Seriously hard. But you can get through it with the help of your classmates!
- Don’t be afraid to reach out to anyone to ask a question or get help. We’re all here for you guys!

Who you are! Individually:

- Patrick Adrian
- Bodhisatwa Biswas
- Brian Casel
- Florian Chavagnat
- Xiang Chen
- Ezra Engel
- Samuel Frank
- Zhuoran Han
- Anupam Jena
- Jack Jones
- Changhao Li
- ZeYang Li
- Julie Logan
- Abhilash Mathews
- Isaac Meyer
- Miriam Rathbun
- Madhumitha Ravichandran
- Adam Reynolds
- Erica Salazar
- Eli Sanchez
- Mohammad Shahin
- Yu-Jou Wang
- Haowei Xu
- Hantao Zhang
- Limiao Zhang