
Welcome to MIT!

(Part II, the Division of Nuclear and Particle Experimental Physics)

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What is a Division Anyway?

- While the lab takes care of the research aspects of MIT, the department (and its divisions) take care of the academic side of things.
 - ❖ Atomic, Biophysics and Condensed Matter Physics
 - ❖ Astrophysics
 - ❖ Theoretical Nuclear and Particle Physics
 - ❖ Experimental Nuclear and Particle Physics ← **You are here.**

Some Academic Details

- As discussed in the departmental overview, students are required to either (a) pass a series of written exams or (b) pass an equivalent course.
- Courses required for written exam:
 - ❖ Classical Mechanics
 - ❖ Electricity and Magnetism
 - ❖ Quantum Mechanics
 - ❖ Statistical Mechanics
- Students are also required to take courses in their division and breadth courses.

Specialty & Breadth Courses

- Students will be required to take 8.701 (Introduction to Nuclear and Particle Physics), 8.711 (Nuclear Physics) and 8.811 (Particle Physics).
- In addition, students will take 2 breadth classes outside of their specialty (cosmology, astrophysics, biophysics, etc.).
- Take time to adjust, avoid front loading all your classes at once.

The Oral Exam

- Students take the oral exam usually in their second or third year. It focuses on the material that one typically covers in the core classes (experimental techniques, nuclear physics, particle physics).
- In recent years, the exam has been streamlined to best help students as they prepare for the exam.

The Thesis

- Most of the education in research is done by “apprenticeship”: working with senior physicist(s)
- The exact topic is usually agreed between you and your research supervisor 1-2 years in advance of thesis defense
- Average start-to-finish duration at MIT is 6 years. (summer of 2030)

Summary

- Once again, welcome to MIT.
- This is a great place to do research.
- Please feel free to reach out if you have any questions (josephf@mit.edu)