PHYS 110 – Lecture 6

Today: Undergraduate Research Opportunities

• Announcements
• Intro to Physics research
• Faculty panel discussion
iClicker Question: What do I need to do to get a ‘Satisfactory’ (S) in Phys 110?

A. Participate in 4 classes 75%
B. Complete the online Laboratory Safety Training and email the certificate 18%, due Oct. 16
C. None of the above
D. All of the above

Only 2 lectures left! Check course website & gradebook!
https://courses.physics.illinois.edu/phys110/fa2021/
Undergraduate Research

Advantage of being at a big research university!
Atomic, Molecular, & Optical (AMO) and Quantum Information Science (QIS)

Interaction of light and matter: coldest stuff in the universe, exotic states of quantum entangled matter and light, quantum cryptography & communication, ...
Astrophysics, Gravitation, & Cosmology

Nature at the largest scales: the big bang, dark matter, gravity waves, ...
Biological physics

The physics of living things: molecular processes in single cells, quantitative evolution, quantum biology (avian magnetoreception)…
Condensed Matter Physics

Properties of materials and collections of particles: superconductors, gas giants, carbon nanotubes, graphene, topological insulators, ...
High Energy / Nuclear Physics

Studying nature at its smallest level: fundamental forces, quark-gluon plasma, double-beta decay, new particles (Higgs), ...
Physics Education Research

The science of teaching physics!
iClicker Question: When should I get involved in research as an undergrad?

A. Only during junior or senior year
B. Only if planning to apply to graduate school
C. Only if able to work in the same lab multiple years
D. None of the above
E. All of the above
Faculty Panel

Peter Abbamonte
Condensed Matter Experiment

Yann Chemla
Biological Physics Experiment

Eugene Colla
Condensed Matter Experiment

Paul Kwiat
AMO & QIS Experiment

Anne Sickles
Nuclear Physics Experiment
Some resources

Research Groups & Centers – information hub on Illinois Physics research, faculty pages:
https://physics.illinois.edu/research/groups-and-centers

Undergraduate Research Readiness Portal (URRP) – seeking research opportunities, uploading CVs, and applying to work:
https://physics.illinois.edu/academics/undergraduates

SPS events (e.g. Undergraduate Research Symposium)

Emails from Associate Head (me) and others on research opportunities