Lab Development Projects
Welcome to the University of Chicago
Physics Instructional Lab Development Wiki

This wiki contains documentation related to the ongoing redevelopment of teaching laboratory curriculum within the Department of Physics.

Projects

**PHSC 111/112 and PHSC 116/117** (Winter 2018 - present)
This project looks to redesign the laboratory component of the Physical Sciences (PHSC) core courses offered by the Department of Physics. The focus is on implementing new open-ended and exploratory laboratories that highlight the scientific method which do not rely on content taught during lecture. (This work is supported by a College Innovations Grant.)

**PHYS 120s, 130s and 140s** (Spring 2019 - present)
This project looks to reevaluate the philosophy of the laboratory component of the introductory physics courses. In part, the project looks to revise or replace experiments within the curriculum in order to better prepare majors with skills needed in later years and to provide a more pedagogically-sound experiment experience (with emphasis on inquiry, model-building, computation, etc.)

**PHYS 154 “Second Year Laboratories”** (Spring 2019 - present)
This project will convert the existing “intermediate labs” (the seven experiments of PHYS 154) into a second-year lab experience extending over PHYS 185 (Classical Mechanics), PHYS 234 (Quantum Mechanics I), and PHYS 235 (Quantum Mechanics II) in preparation for Academic Year 2020-2021. The focus is on creating a better bridge between first year labs and advanced labs in PHYS 211 by increasing exposure to computation and simulation; model-building; data processing and analysis; advanced error analysis; and complex open-ended experiments.

**PHYS 211 Course Restructuring** (Spring 2019 - present)
There has been (and continues to be) ongoing development (of new experiments) and refinement (of existing experiments) at the advanced lab level, but this project in particular looks at ways to change the course structure to better align the tasks performed with the experimental skills needed for graduating physics majors. This restructuring in particular is focusing on changes to the way the course approaches development of uncertainty and analysis skills; expectations for lab notebooks, lab analyses/reports, and presentations; introductions to journal article reading, writing, and peer review; and use of computational physics for modeling and simulation. At the same time, the project is also critically investigating how students are evaluated, how expectations are communicated, and how consistency and fairness can be maintained across different instructors and TAs.

Assessment

**Assessment** (Winter 2018 - present)
This page collects all the assessment reports administered in the department as well as contextualized summaries (where appropriate).

TinyURL https://tinyurl.com/yxw3gtod