The IPaSS Approach

Illinois Physics and Secondary Schools (IPaSS) combines the talent, experience and enthusiasm of Illinois' top high school science teachers with the research and content expertise of the University of Illinois to engage Illinois high school students with the highest quality physics experience.

“...it is our responsibility to show students that they belong and are capable of success in any course of study they desire, because we need that same vibrance from diversity of thought and experience in order to tackle the complex problems in our world.”

-Marianna, Teaching Fellow

JOIN US

If you would like more information, or are interested in being an early partner please send us your contact information via the following form: https://go.physics.illinois.edu/IPaSS

CONTACT US

University of Illinois at Urbana-Champaign
Department of Physics
1110 West Green Street
Urbana, IL 61801-3003

Have other questions? We would love to hear from you:
https://go.physics.illinois.edu/partnership-program-questions

LEARN MORE

Visit our website: https://ipass.physics.illinois.edu
AN AWARD-WINNING CURRICULUM
APS 2012 Award for Improving Undergraduate Physics Education

THE IOLAB
IPaSS lab activities utilize the iOLab wireless lab system, invented by U of I physics professors

CURRICULAR RESOURCES
A UNIVERSITY CURRICULUM TO MEET NEW AP PHYSICS DEMANDS
- Learning goals for AP Physics exams have changed; greater focus on conceptual learning and inquiry-based lab practices
- Design of IPaSS curriculum and associated PD supports teachers in adapting to new instructional demands

LABS FOCUSED ON EXPERIMENTAL DESIGN: THE IOLAB
- iOLab is a compact device containing all sensors necessary for hundreds of physics labs, and wireless interface supporting quick data collection
- Diverse functionality promotes student freedom to design their experiments and engage with open lab-prompts

THE SMARTPHYSICS ONLINE PLATFORM
- Access to U of I's undergraduate physics course materials via the smartPhysics online platform
- Flexibility for teachers to tailor-make their own courses within smartPhysics by selecting from this suite of materials

INSTRUCTIONAL RESOURCES TO PROMOTE ACTIVE LEARNING
- Access to university lectures and discussion problem sets
- A repository of materials for engaging students actively in direct instruction and full class activities

A PARTNERSHIP STRUCTURE WITH FLEXIBILITY
Exploratory Partners test-drive selected iOLab activities in their classes with support from the U of I team.

Gateway Partners select one aspect of the IPaSS curriculum to completely integrate into their classes (e.g. labs; online homework; video lectures and checkpoints). Partners are invited, but not required to join PD activities.

Teaching Fellows form a cohort that meets regularly throughout the year and collaborates to adapt and implement multiple IPaSS curricular materials across their courses.

“Within this supportive yet challenging environment, I am able to demand high-quality outcomes from my students.”
-Jennifer, Teaching Fellow

THE PARTNERSHIP EXPERIENCE
SUSTAINED, COMMUNITY-CENTERED PD
THE IPASS COMMUNITY OF PRACTICE: In-service high school physics teachers, education researchers, university physics instructors, and teacher professional development staff working together
A SHARED GOAL: Adapt university physics curricula and pedagogies to fit the context of the high school classroom
SUSTAINED ENGAGEMENT: Summer institutes and weekly school year meetings encourage peer support and mentorship

COLLABORATION TO DEVELOP TOP-QUALITY CURRICULA
Teachers integrate the best materials from the community of practice to develop a robust and fitting curriculum for their class

“Why I hope is for all my students to again wonder about their world — a trait that many people lose by the time they finish high school — and that they feel driven and able to learn about whatever it is they find fascinating.”
-Jill, Teaching Fellow

A Vibrant Teaching Community to Strengthen the Next Generation of Engineers