



PER User's Guide

Physics Education Research

Evidence-based resources for teaching physics



Physics and Everyday Thinking

 Indicates a research-demonstrated benefit

Overview

A guided-inquiry conceptual physics course designed to help students develop a deep conceptual understanding of big ideas in physics.



Type of Method

Full curriculum



Level

Designed for: Teacher Prep Course 

Can be adapted for: Teacher Professional Development, High School, Intro College Conceptual



Setting

Designed for: Studio 

Can be adapted for: Lecture - Small (<30 students)  , Lab



Coverage

Few topics with great depth



Topics

Mechanics, Electricity / Magnetism, Waves / Optics



Instructor Effort

Medium





Resource Needs

Computers for students, Advanced lab equipment, Cost for students, Tables for group work





Skills



Designed for: Conceptual understanding  , Metacognition  , Using multiple representations

Can be adapted for: Making real-world connections



Research Validation

Based on research into: theories of how students learn  , student ideas about specific topics 

Demonstrated to improve: conceptual understanding  , beliefs and attitudes 

Studied using: research at multiple institutions 



Compatible Methods

[PhET](#), [JiTT](#), [Physlets](#), [SCALE-UP](#), [OSP](#), [LA Program](#), [CPU](#)



Similar Methods

[PBI](#), [PSET](#), [LEPS](#)



Developer(s)

Fred Goldberg, Valerie Otero and Steve Robinson



Website

<http://petproject.sdsu.edu/>

