Guide

CU upper-division QM curriculum

Indicates a research-demonstrated benefit

Overview

Supplementary activities for upper-level QM I. All materials are modular and can be mixed and matched with any other teaching strategy or materials.

Type of Method	Full curriculum, Curriculum supplement, Tutorials
Level	**Designed for:** Upper-level Undergraduate **Can be adapted for:** Intermediate, Graduate School
Setting	**Designed for:** Lecture - Large (30+ students) , Lecture - Small (<30 students) , Recitation/Discussion Session, Homework **Can be adapted for:** Out-of-class tutorials
Coverage	Many topics with less depth, Traditional upper-division Quantum I coverage (e.g. first half of Griffiths text)
Topics	Modern / Quantum
Instructor Effort	Medium
Resource Needs	TAs / LAs, Clickers / polling method, Projector
Skills	**Designed for:** Conceptual understanding , Problem-solving skills, Using multiple representations **Can be adapted for:** Making real-world connections, Metacognition
Research Validation	**Based on research into:** theories of how students learn **Studied using:** student interviews , classroom observations
Compatible Methods	Peer Instruction, PhET, JiTT, CGPS, Physlets, SCALE-UP, OSP, LA Program, CAE TPS, TEFA, CU Modern, QuILTs, Paradigms, PI QM, Tutorials, Clickers
Similar Methods	CU Modern, CU E&M, QuILTs, Paradigms, PI QM

Developer(s)	Steven Pollock, Stephen Goldhaber, and many others in the CU PER group and the CU Physics department
Website	http://www.colorado.edu/sei/departments/physics_3220.htm

Teaching materials

You can download all course materials, including lecture slides, clicker questions, homework, exams, and solutions from the developer's website (you'll need to ask for a password to access solutions): http://www.colorado.edu/sei/departments/physics_3220.htm