

## Peer Instruction for Quantum Mechanics

Indicates a research-demonstrated benefit

## **Overview**

A collection of multiple-choice and short answer questions for discussion and reflection in an upper-level undergraduate quantum mechanics course.

Type of Method	Instructional strategy, Curriculum supplement
📉 Level	Designed for: Upper-level Undergraduate 👒 Can be adapted for: Graduate School 🛸 , Intermediate
fin Setting	<b>Designed for:</b> Lecture - Small (<30 students) (*), Lecture - Large (30+ students), Recitation/Discussion Session, Studio
📔 Coverage	Few topics with great depth, Many topics with less depth
🗾 Topics	Modern / Quantum
Instructor Effort	Low
Resource Needs	Projector
👔 Skills	<b>Designed for:</b> Conceptual understanding 🔹 , Making real-world connections, Metacognition
Research Validation	<ul> <li>Based on research into: theories of how students learn ♣, student ideas about specific topics ♣</li> <li>Demonstrated to improve: conceptual understanding ♣</li> <li>Studied using: cycle of research and redevelopment ♣, student interviews ♣, classroom observations ♣, research at multiple institutions ♣, peer-reviewed publication ♣</li> </ul>
Compatible Methods	Peer Instruction, PhET, JiTT, CGPS, Physlets, SCALE-UP, CAE TPS, New Model Course, TEFA, CU Modern, CU QM, QuILTs, Paradigms, Clickers
Similar Methods	Peer Instruction, Workbook for Introductory Physics, CAE TPS, TEFA, CU QM, QuILTs, Clickers

**Developer(s)** Chandralekha Singh and PER team at the University of Pittsburgh

Website <u>http://www.phyast.pitt.edu/~cls/peer/</u>

## **Teaching materials**

You can access the resource material, which includes the "ConcepTests" for assessment with continuous feedback to the students, standarized assessment tools, reflective questions and the material for Just-In-Time Teaching (JITT) for quantum mechanics courses, by contacting the developer at <u>clsingh@pitt.edu</u>.

## Resources, training, & community

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