



Just-in-Time Teaching

 Indicates a research-demonstrated benefit

Overview

Students are asked questions, usually online, which both encourage preparation for the class and encourage students to come to class with a "need to know." Instructors use the responses to fine tune their presentation, and incorporate quotes from the student responses into the class.





Type of Method

Instructional strategy



Level

Designed for: Intro College Calculus-based , Intro College Algebra-based , Intro College Conceptual, Intermediate Undergraduate, Advanced Undergraduate, Astronomy, Other Science

Can be adapted for: Any



Setting

Designed for: Lecture - Large (30+ students) 

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



Coverage

Few topics with great depth, Many topics with less depth



Topics

Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical, Modern / Quantum, Mathematical, Astronomy, Other Science, Pedagogy



Instructor Effort

Medium, High




Resource Needs

Computers for student use outside of class, Course management system or other way of collecting responses online



Skills





Designed for: Conceptual understanding of physics content , Connecting conceptual and mathematical understanding, Coherent framework for physics, Understanding how physics relates to the real world, Think like a scientist, Representing knowledge in multiple ways, Study skills

Can be adapted for: Reflecting on one's own learning, Self-confidence around physics, Enjoyment of physics, Autonomy



Research Validation

Based on research into: how students learn 

Demonstrated to improve: scores on written conceptual tests , traditional problem-solving ability , attitudes about physics , retention of students , study skills

Studied using: student interviews , classroom observations 



**Compatible
Methods**

[Peer Instruction](#), [PhET](#), [UW Tutorials](#), [Ranking Tasks](#), [ILDs](#), [CGPS](#), [Physlets](#), [Context-Rich Problems](#), [RealTime Physics](#), [Workshop Physics](#), [TIPERs](#), [ABP Tutorials](#), [SCALE-UP](#), [Modeling](#), [OSP](#), [SDI Labs](#), [OST Tutorials](#), [ISLE](#), [Thinking Problems](#), [Workbook for Introductory Physics](#), [LA Program](#), [PBI](#), [PET](#), [PSET](#), [LEPS](#), [CAE TPS](#), [Lecture-Tutorials](#), [Astro Ranking Tasks](#), [MBL](#), [New Model Course](#), [CPU](#), [SCL](#), [TEFA](#), [CU Modern](#), [CU E&M](#), [CU QM](#), [QullTs](#), [IQP](#), [Thermal Tutorials](#), [Mechanics Tutorials](#), [SGSI](#), [Paradigms](#), [PUM](#), [Tools for Scientific Thinking](#), [PI QM](#), [M&I](#), [Tutorials](#), [Clickers](#), [MOP](#), [Responsive Teaching](#)



**Similar
Method**

None



Developer(s)

G. Novak, A. Gavrin, E. Patterson, W. Christian



Website

<http://jittdl.physics.iupui.edu/jitt/>