

Welcome to Physics 8.01, MIT's introductory course in classical mechanics for first-year undergraduates.

Im Deepto Chakrabarty.

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Were the faculty members in charge of this course.

The science of classical mechanics establishes an important principle of cause and effect, wherein the changes in a bodys motion arise from the application of physical forces.

Newtons Laws of Motion established the scientific principle of analyzing observed phenomenon through the use of clearly articulated mathematical models rather than through intuition.

These concepts are so important to the modern branches of science and engineering that we require all of our undergraduates at MIT to take classical mechanics regardless of whatever course they intend to specialize in.

In many high-school-level physics courses, mechanics is taught as a set of formulas to memorize for a series of standard situations.

Our course is different.

Here, you will learn a set of fundamental principles that you can use to apply to unfamiliar situations and analyze them rather than just situations that you studied previously.

8.01 assumes a strong background in high school level physics and mathematics.

We introduce and make extensive use of calculus as needed, so a previous course in calculus is not a prerequisite.

However, it is a rigorous and technically challenging course aimed at MIT undergraduates.

8.01s OpenCourseWare site contains a coherent set of lessons that will take you through all the basic concepts of classical mechanics as well as a set of advanced topics including mass flow, simple harmonic motion, and precessional motion.

In each of these lessons, you will find a series of short lightboard videos that will help you understand concepts, mathematical derivations, and problems solving techniques.

In addition, you will find many other useful resources including an online textbook, many worked example problems, and MIT-level problem sets.

Developing a command of mechanics is a powerful tool for understanding the world around us.

Welcome to 8.01.