

Pre-Honor Physics Syllabus

Henry Ding

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Pre-Honor Physics is designed for students in grades 8-11 who have completed Algebra 2 and possess a basic understanding of trigonometry and vectors, but have little to no prior experience in physics. This course builds a solid foundation in physics, develops an understanding of the fundamental laws behind natural phenomena, and inspires interdisciplinary interest. Pre-Honor Physics prepares students for success in Honor Physics. Topics include:

- Math Review (trigonometry, vectors)
- Linear Motion
- Forces
- Rotational Motion
- Rotational Dynamics

Logistics

- **Lectures:** Tuesday, Thursday, Saturday; 1 pm to 3 pm Pacific Time on Zoom ([link](#))
- **Instructor:** Henry Ding (he/him) henry.d@princeton.edu. Feel free to contact me via email at any time. I will do my best to respond in a timely manner.
- **Textbooks:** [OpenStax Physics \(High School\)](#), [OpenStax Precalculus 2e](#). Recommended readings provided. Only read as necessary, and do not read everything!

- **Assignments:** Homework is due at 11:59 PM via email the day before the next lesson. Assignment feedback will be available before the next lesson.
- **Language:** All lectures and class materials are in English.

Course Schedule

There are 8 total lessons covering

1. Math Review and Measurement
2. Motion in One Dimension
3. Newton's laws
4. Motion in Two/Three Dimensions
5. Applications of Newton's Laws
6. Momentum
7. Rotational Motion
8. Rotational Dynamics