

Syllabus for Discovering Design with Physics Videos

You get the most benefit from the videos if you read the material, try the “Comprehension check” problems, and perform the experiments that are covered before you watch the video. To ensure that, here is a list of each video and what should be done before you watch it.

Video 1: Read pages 1-15, stopping at "Newton's First Law of Motion." Complete Experiment 1.1 in the process.

Video 2: Start at "Newton's First Law of Motion" on p. 15 and read to the end of the chapter. Complete Experiments 1.2-1.4 in the process.

Video 3: Read pages 35-46, stopping at "Equations of Motion (Part 2)." Complete Experiments 2.1 and 2.2 in the process.

Video 4: Start at "Equations of Motion (Part 2)" on p. 46 and read to the end of the chapter. Complete Experiment 2.3 in the process.

Video 5: Read pages 65-76, stopping at "Revisiting Some Old Friends." Complete Experiments 3.1 and 3.2 in the process.

Video 6: Start at "Revisiting Some Old Friends" on p. 76 and read to the end of the chapter. Complete Experiments 3.3 and 3.4 in the process.

Video 7: Read pages 91-100, completing Experiment 4.1 in the process.

Video 8: Read from the top of page 101 to the end of the chapter, completing Experiment 4.2 in the process.

Video 9: Read pages 119-128, stopping at "The Range Equation." Complete Experiment 5.1 in the process.

Video 10: Start at "The range Equation" on p. 128 and read to the end of the chapter. Complete Experiments 5.2 and 5.3 in the process.

Video 11: Read pages 149-158, completing Experiments 6.1 and 6.2 in the process.

Video 12: Read from the top of page 159 to the end of the chapter, completing Experiment 6.3 in the process.

Video 13: Read pages 177-188, stopping at "But Isn't Gravity Constant Near the Surface of the Earth." Complete Experiment 7.1 in the process.

Video 14: Read from "But Isn't Gravity Constant Near the Surface of the Earth" on page 188 to the end of the chapter. Complete Experiment 7.2 in the process

Video 15: Read pages 203-214, completing Experiments 8.1 and 8.2 in the process.

Video 16: Read from after the experiment on page 214 to the end of the chapter, completing Experiment 8.3 in the process.

Video 17: Read pages 229-240, stopping at "Energy Conservation in Collisions." Complete Experiments 9.1 and 9.2 in the process.

Video 18: Read from "Energy Conservation in Collisions" on page 240 to the end of the chapter. Complete Experiment 9.3 in the process.

Video 19: Read pages 257-268, completing Experiments 10.1 and 10.2 in the process.

Video 20: Read from page 269 to the end of the chapter, completing Experiment 10.3 in the process.

Video 21: Read pages 283-294, stopping at "How We Hear Sounds and Why There are Some Sounds We Cannot Hear." Complete Experiment 11.1 in the process.

Video 22: Read from "How We Hear Sounds and Why There are Some Sounds We Cannot Hear" on page 294 to the end of the chapter.

Video 23: Read pages 311-324, completing Experiment 12.1 in the process.

Video 24: Start on page 325 and read to the end of the chapter, completing Experiment 12.2 in the process.

Video 25: Read pages 347-356, stopping at the end of Example 13.3. Complete Experiment 13.1 in the process.

Video 26: Read from the end of Example 13.3 (page 356) to the end of the chapter, completing Experiment 13.2 in the process.

Video 27: Read pages 373-383, stopping at "Storing Charges in a Leyden Jar." Complete Experiment 14.1 in the process.

Video 28: Read from "Storing Charges in a Leyden Jar" on p. 383 to the end of the chapter, completing Experiment 14.2 in the process.

Video 29: Read pages 397-407, stopping at "More on Series and Parallel Circuits." Complete Experiment 15.1 in the process.

Video 30: Read from "More on Series and Parallel Circuits" on p. 407 to the end of the chapter.

Video 31: Read pages 425-433, stopping at the end of Experiment 16.2. Complete Experiments 16.1 and 16.2 in the process.

Video 32: Read from the end of the Experiment on p. 433 to the end of the chapter. Complete Experiment 16.3 if you want, but it is optional. There is a recording of it on the course website.