IB Physics

Forces

Chapter 4 and 9 Syllabus[[1]](#footnote-1)

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| Block | Class  | Due on this class |
| 1Oct 29/30 | -Welcome to Physics! – Aristotle and Galileo-Newton's laws -Net Force Part 1 - Horizontal -The difference between mass and weight | **Read:** 4.1-6 |
| 1 ¾ Oct 31/Nov 1 | -Projection Science-Hot Beverages | **Bring a ceramic mug****☺☺☺☺☺☺☺☺☺☺☺☺☺☺☺☺** |
| 2Nov 4/5 | -Net Force Part 2 - weight-Solving Net Force Problems-Calculating Force of friction | **Read:** 4.7**Check #1:** Ch 4: 1, 3, 4(750 N, 130 N, 280 N), 5, 7, 9Net Force: 1, 2, 5, 6, 9, 7[[2]](#footnote-2) |
| 3Nov 6/12 | -Solving problems with Friction-Work on some friction problems in class-Inclined Planes Demo-Forces on inclined planes - Note guide **(handout)** | **Check #2:** Net Force: 4, 10, 8, 11, 13, 14, **16**, **17[[3]](#footnote-3),** 12, 15 |
| 4 Nov 13/14 | -Calculating the four forces on inclined planes-Work on Inclined Planes 1, 2, 5, 6-Forces on pulleys demo | **Video Flip: Inclined Planes (I)****Read:** p. 94**Check #3:** Friction: 4a, 5, 6, 7, 9, 8, 10, 11 |
| 5Nov 15/18 | **-Pre-Quiz 4.1 (Net Force) (handout)**-Solving Pulley problems -Solving Statics problems: Equilibrant | **Read:** 9.1-2 (pp. 226-229, only not torque)**Check #4:** Inclined Planes: 1, 2, 5, 6, **10**, **11** Net Force: **18**, **19** Friction: **16**, **17** |
| 6Nov 19/20 | -Solving Statics problems: 1, 2 unknowns – Matrices-How to deal with no mass on Inclined Planes-**Skill Set 4.1** | **Check #5:** Pulleys and Equil: 5, 6, 10, 11, 8 Ch 9: 1 |
| 7Nov 21/22 | **-Pre-Quiz 9.1 (Force equilibrium) (handout)**-Intro of *Equilibrium Lab (no handout)*-Intro of *Force Lab (no handout)*-Work on *Equilibrium Lab*  | **Check #6:** Inclined Planes: 3, 4, 8 Friction: 12, 13, 14, 15 Pulleys and Equil: 8  Ch 9: 12(Left = 258 N, Right = 195 N)**Turn in: Equilibrium Lab** |
| 8Nov 25/26 | -**Skill Set 9.1**-Variables for *Force Lab*-Work on *Force Lab* | **Check #7:** Inclined Planes: 7, 9 Ch 4: 15, 24(0.703 m/s/s @ 237o, 0.520 m/s/s @51.0o) 25, 45, 48ab(1.9 m/s/s, 370 N), 87(!) |
| 9Nov 27/Dec 3 | -Work on *Force Lab*  | **Check #8:** Net Force: **20** Friction: **18, 19**, **20**  Pulleys and Equil: 7 Inclines Planes: **12**, **13**, **14**  |
| 10Dec 4/5 | **-Test** on Forces | **Turn in:** Homework (8 Days) |
| Dec 6/9 | -Why it is important to consider the weight of a barrel of bricks.**Gravity and circular motion!!!!!** | **Turn in: Force Lab (Des)** |
| Assignments* 2 Labs:
	+ Force Equilibrium (short in-class lab with force tables)
	+ Student designed lab on force
* 2 PreQuizzes/Skill Sets (The skill sets are like tests)
	+ 4.1 – Net Force
	+ 9.1 – Statics and vector forces
* One Test on Forces – Look on the website for study examples, and do study for this test
* Homework from 8 nights
 | \*Handouts:Syllabus-ForcesPrequiz-04.1Prequiz-09.1Worksheet-NetForceAndFrictionNoteGuide-InclinedPlanesExampleWorksheet-PlanesAndEquilIA-Des-Description |

1. This unit uses both chapter 4, (which starts on page 72, and has problems starting on page 98) and chapter 9 (which starts on page 226 and has problems starting on page 247) [↑](#footnote-ref-1)
2. This is the order that you should do the problems in. (Increasing difficulty) [↑](#footnote-ref-2)
3. The problems in bold are problems for this type that are as hard as test and skill set questions. [↑](#footnote-ref-3)