Physics

Linear Kinematics Unit Syllabus

Text: *Holt Physics* – by Serway and Faughn.

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| Block[[1]](#footnote-1) | Class  | Due on this class[[2]](#footnote-2) | If you miss this class: |
| 1**Sept** **6/7** | -Hand out Course Policy-Fill out information sheet-Speed Trap/Uncertainty-Tour of the Website assignment-Data collection assignment for No reason to Speed  | **Bring:** Your smiling face**Bring:** Paper and pencil**Turn in:** Completed information sheet**Turn in:** Speed trap (In class) (indiv) | **Watch:** Videos A1 (?)**Watch:** Videos for the Speed Trap Lab**Watch and Read:** Info on the No Reason to Speed Lab |
| 2**Sept** **8/11** | -Speed-Review Dimensional analysis (DA)**-Math pretest** | **Video (all):** Tour of the Website**Bring:** A calculator (every day hereafter :-) | **Read:** 2-1[[3]](#footnote-3), 1-2 to 1-3**Read:** This syllabus!**Watch:** Videos A1, A2 (?) |
| 3**Sept 12/13** | -Work in groups on Speed and DA Quizlette -NRTS and Homework reminder | **Turn in:** Speed and DA Quizlette | **Watch:** Videos A1, A2 (?)Work on Speed and DA Quizlette on your own |
| 4**Sept 14/15** | -Quiz on Course Policy -Work on No Reason To Speed Lab | **Check:** Practice 2.1 #1-8[[4]](#footnote-4)**Read:** Course Policy | **Read:** Course Policy**Make up the course policy quiz**  |
| 5Sept 18/19 | -Acceleration and vector velocity | **Turn in:** No reason to Speed lab (indiv)**Check:** Practice 2.1 #9-16**Turn in:** Practice 2.1 #1-16 | **Read:** 2-2, pp 48-51**Watch:** Videos B-D |
| 6**Sept 20/21** | -Lateral Accelerometer assignment-Work on Acceleration Quizlette | **Turn in:** Acceleration Quizlette  | Work on Acceleration Quizlette on your own |
| 7**Sept 22/26** | -Qualitative graphs of position-Moving Plots equipment demo-Work on Moving plots lab-Hand out FA 2.1, 2.2 | **Check:** Practice 2.2 #1-6 | **Read:** 2-2, pp51-58**Watch:** Videos for the moving Plots Lab**Watch:** Videos G |
| 8**Sept** **27/28** | -Qualitative graphs of velocity-Finish up Moving Plots Lab graphs-Finish FA 2.1, 2.2 | **Check:** Practice 2.2 #17-22**Turn In:** Practice 2.2 #1-6, 17-22 | **Watch:** Videos for the moving Plots Lab**Watch:** Videos H |
| 9**Sept 29/****Oct 2** | -Positive and negative accelerations on graphs-Cha cha cha and Vernier motion cart lab |  | Come in and make up these labs |
| 10**Oct** **3/4** | -Tangent Lines for Moving Plots lab**-Summative Assessments on:****-SA 2.1 Speed****-SA 2.2 Acceleration** | **Turn in:** Moving plots lab (Pairs)**Turn in:** FA 2.1, 2.2 Turn in **all** formative work from 2.1 or 2.2 that you want credit for | **Watch:** Videos for the moving Plots Lab**Make up your Summative assessments** |
| 11**Oct** **5/6** | -Solving Linear Kinematics problems |  | **Watch:** Videos E**Read:** 2-3 |
| 12**Oct 9/10** | -Work on How Far Quizlette |  | Work on How Far Quizlette on your own |
| 13**Oct 11/12** | -Finish How Far Quizlette-Reaction time lab | **Turn in:** How Far Quizlette**Check:**  Practice 2.3 #1-5, 21, 22 | Work on How Far Quizlette on your ownMake up the reaction time lab |
| 14**Oct 16/17** | -Free Fall and Terminal velocity  | **Check:** Practice 2.3 #6-10, 23, 24**Turn in:** Practice 2.3 #1-10, 21-24[[5]](#footnote-5)**Turn in:** Air Rocket Lab (indiv)**Turn in:** Reaction time lab (indiv) | **Watch:** Videos F |
| 15**Oct 18/19** | -Work on Free Fall Quizlette | **Turn in:** Free Fall Quizlette | Work on How Far Quizlette on your own |
| 16**Oct 20/23** | -Measuring the Initial Velocity of an Air Rocket lab-Air Rocket Calculations -The Range Equation (Magic!!) | **Check:** Practice 2.4 #1, 2, 3 | Get data from a group member and do the calculations yourself |
| 17**Oct 24/25** | -Warmup – calculate angle-Reminder about lateral Accelerometer assignment…-Air Rocket Competition: Hitting a target | **Check:** Practice 2.4 #4, 5, 6**Turn In:** Practice 2.4 #1-6 | **Video:** Video Z |
| 18**Oct****30/31** | -Formative Assessments on:-FA 2.3 Basic Kinematics-FA 2.4 Free Fall kinematics |  |  |
| 19**Nov****1/2** | -Accelerometers judged **-Summative Assessments on:****-SA 2.3 Basic Kinematics****-SA 2.4 Free Fall Kinematics**-Finish your lateral accelerometer lab writeup? | **Turn In:** FA 2.3, 2.4Turn in **all** formative work from 2.3 or 2.4 that you want credit for **Bring:** Your lateral accelerometer**Turn in:** Your completed Lateral Accelerometer lab write-up signed by your parents. (indiv) |  |

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| Assignments* 7 Labs:
	+ Speed Trap Lab – Timing cars, No handout /20 pts (indiv)
	+ No Reason to Speed Lab – Spreadsheet and questions /40 pts (indiv)
	+ Air Rocket Lab – Initial velocity outdoors, No handout /30 pts (indiv)
	+ Reaction Time Lab – Dropping meter stick /20 pts (indiv)
	+ Moving Plots Lab – tape timer and cart /40 pts (pairs)
	+ Cha3 and Vernier Motion Cart Lab /20 pts (group)
	+ Rocket Competition – No write-up required
	+ Lateral Accelerometer Lab – Do at home, bring the jar+writeup on the day after the test /20 pts (indiv)
* 4 Formative Quizlettes (In class group work)
	+ Quizlette 2.1 - Speed /36 pts
	+ Quizlette 2.2 - Acceleration /28 pts
	+ Quizlette 2.3 - How Far
	+ Quizlette 2.4 - Free Fall
* 4 Formative Homework Assignments:
	+ Practice 2.1 #1-16 /32 pts
	+ Practice 2.2 #1-6, 17-22 /24 pts
	+ Practice 2.3 #1-10, 21-24 /28 pts
	+ Practice 2.4 #1-6 /30 pts
* 4 Formative/Summative Assessments: (10 pts ea)
	+ 2.1 Speed
	+ 2.2 Acceleration
	+ 2.3 Basic Kinematics
	+ 2.4 Free Fall Kinematics
 | Handouts  |

1. This is the block of the syllabus, and the numbers that follow are the dates that they will happen, the first is for A day classes, the second for B. [↑](#footnote-ref-1)
2. Note that this column is for things to be checked at the beginning of class, or turned in at the end. [↑](#footnote-ref-2)
3. This is section 2-1. It starts on page 40 of your textbook. [↑](#footnote-ref-3)
4. Do these on a separate sheet of paper, show your work, not just the answers. We will check them at the beginning of class, and I will stamp them. If you want an extra stamp, put the problem on the board, and be able to explain it. [↑](#footnote-ref-4)
5. Turn this in all stapled together if you used different sheets. Label it "Practice 2.3" :-) [↑](#footnote-ref-5)