Physics

Linear Kinematics Unit Syllabus

|  |  |  |  |
| --- | --- | --- | --- |
| Block | Class | Due on this class | If you miss this class: |
| 1  **Sept**  **5/6** | -Course Policy/Index Cards  -Speed Trap/Uncertainty  -Tour of the Website assignment  -Data collection assignment for No reason to Speed Lab (NRTS) | **Bring:** Your smiling face  **Bring:** Paper and pencil and a calculator  **Turn in:** Completed information sheet  **Turn in:** Speed trap (In class) (indiv) | **Watch:** Videos 1A1 (?)  **Watch:** Videos for the Speed Trap Lab  **Watch and Read:** Info on the No Reason to Speed Lab |
| 2  **Sept**  **7/10** | **DI**-Speed  **DI**-Review Dimensional analysis (DA)  **-Math pretest** | **Video (all):** Tour of the Website | **Read:** 2-1, 1-2 to 1-3  **Read:** This syllabus!  **Watch:** Videos 2A1, 2A2 (?) |
| 3  **Sept**  **11/12** | **GW**-Work in groups on Speed and DA Quizlette and FA 2.1  -NRTS and Homework reminder | **Turn in:** Speed and DA Quizlette | **Watch:** Videos 2A1, 2A2 (?)  Work on Speed and DA Quizlette on your own |
| 4  **Sept**  **13/14** | -Questions on FA 2.1?  -Google Classroom/Laptops/VF  **SA 2.1 Speed (30 minutes)**  -Work on No Reason To Speed Lab | **Turn in:** FA 2.1  Practice 2.1 #1-8 |  |
| 5 Sept **17/18** | **DI** - Vector Velocity  **DI** - Complex Acceleration  -Finish No Reason to Speed lab?  **GW**-Work on Acceleration Quizlette | **VF: 2C - Simple Acceleration**  **Turn in:** No reason to Speed lab (indiv)  Practice 2.1 #9-16 | **Read:** 2-2, pp 48-51  **Watch:** Videos 2B-2D |
| 6  **Sept**  **19/20** | -Lateral Accelerometer assignment  **GW**-Finish Acceleration Quizlette  **GW**-FA 2.2 Acceleration | **Turn in:** Acceleration Quizlette | Work on Acceleration Quizlette on your own |
| 7  **Sept**  **21/25** | -Questions on FA 2.2?  **SA 2.2 Acceleration (30 minutes)**  **VF**-2G Slope and velocity  **DI**-Tangent lines | **Turn in:** FA 2.2  Practice 2.2 #1-6 | **Read:** 2-2, pp51-58  **Watch:** Videos for the moving Plots Lab  **Watch:** Videos 2G |
| 8  **Sept**  **26/27** | **DI**-Qualitative Graphs  -Rangefinders and graphs  **GW**-Graphs of Motion | **VF: 2H Velocity graphs**  Practice 2.2 #17-22 | **Watch:** Videos for the moving Plots Lab  **Watch:** Videos 2H |
| 9  **Sept 28/**  **Oct 1** | -Moving Plots equipment demo  -Cha Cha Cha demo  **GW**-Labs |  | Come in and make up these labs |
| 10  **Oct**  **2/3** | **GW**-Labs | **Turn in:** Moving plots lab (Pairs)  **Turn in:** Cha Cha Cha Lab | **Watch:** Videos for the moving Plots Lab  **Make up your Summative assessments** |
| 11  **Oct**  **4/5** | **DI**-Example Problems  **GW**-How Far Quizlette | **VF: 2E Solving Kinematics** | **Watch:** Videos 2E  **Read:** 2-3 |
| 12  **Oct**  **8/9** | **GW**-Work on How Far Quizlette  **GW**-FA 2.3 |  | Work on How Far Quizlette on your own |
| 13  **Oct**  **10/11** | -Questions on FA 2.3?  **SA 2.3 Kinematics (30 minutes)**  **DI**-Free Fall Demos | **VF: 2F Free Fall Problems**  **Turn in:** How Far Quizlette  Practice 2.3 #1-5, 21, 22 | Work on How Far Quizlette on your own  Make up the reaction time lab |
| 14  **Oct**  **15/16** | -Reaction time lab demo  **GW**-Work on Free Fall Quizlette | Practice 2.3 #6-10, 23, 24 | **Watch:** Videos 2F |
| 15  **Oct**  **17/18** | **GW**-Reaction time lab  **GW**-Work on Free Fall Quizlette | **Turn in:** Free Fall Quizlette  **Turn in:** Reaction time lab (indiv) | Work on How Far Quizlette on your own |
| 16  **Oct**  **19/22** | -Air Rocket lab  -Air Rocket Calculations  -The Range Equation (Magic!!) | Practice 2.4 #1, 2, 3  **Turn in:** Air Rocket Lab (indiv) | Get data from a group member and do the calculations yourself |
| 17  **Oct**  **23/24** | -Warmup – calculate angle  -Air Rocket Competition: Hitting a target | Practice 2.4 #4, 5, 6 | **Video:** Video 2Z |
| 18  **Oct**  **29/30** | -Questions on FA 2.4?  **SA 2.4 Free Fall (30 minutes)**  **DI-Vector Components** |  |  |
| 31/1 | **??????????????????????????** | **Bring a ceramic mug** |  |
| 1  **Nov**  2/6 | **GW-**Where Oh Where am I?  **GW**-Vector Quizlette | **VF: 3C, 3D Vectors** |  |

|  |  |
| --- | --- |
| 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 /20 pts (group)   + Rocket Competition – No write-up required * 4 Formative Quizlettes (In class group work) (10 pts ea)   + Quizlette 2.1 - Speed   + Quizlette 2.2 - Acceleration   + Quizlette 2.3 - How Far   + Quizlette 2.4 - Free Fall * 4 Formative/Summative Assessments: (10 pts ea)   + 2.1 Speed   + 2.2 Acceleration   + 2.3 Basic Kinematics   + 2.4 Free Fall Kinematics | Handouts |