Master Physics Teacher Certificate

Introductory Mechanics

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Fall 2013

Text: Fundamentals Of Physics, by Halliday, Resnick, Walker, Vol1, 9th edition

Objectives: Upon successful completion of this course, students will be able to:

1) demonstrate basic facility with the methods and approaches of scientific inquiry and problem-solving
2) explain how the concepts and findings of mechanics shape our world
3) develop quantitative models as related to the course subject matter
4) apply symbolic systems of representation
5) formulate structured and logical arguments

Date	Lecture	Read Chapters	Quiz
28-Aug	**Measurement & Error** LAB - Error Analysis	**1.1 - 1.7**	1
4-Sep	**Math Workshop** Vectors, Trig, Algebra	**A9, 3.1-3.6, 3.8**	5
11-Sep	**Straight Line Motion I** Pedagogy	**2.1 - 2.10**	2, 3, 4
18-Sep	**Motion in Two and Three Dimensions I** LAB - Free Fall	**4.1 - 4.6**	6, 7
25-Sep	**Motion in Two and Three Dimensions II** Problem Solving	**4.7 - 4.9**	8
2-Oct	**Force and Motion I** Pedagogy	**5.1 - 5.9**	9, 10
9-Oct	**Force and Motion II** LAB - Newton's 1st and 3rd law	**6.1 - 6.5**	11, 12
16-Oct	**Kinetic Energy, Work, Power** Problem Solving	**7.1 - 7.9**	13
23-Oct	**Potential Energy, Conservation of Energy** Pedagogy	**8.1 - 8.6**	15, 16
30-Oct	**Linear Momentum** LAB - Linear Momentum	**9.4 - 9.11**	18, 19
6-Nov	**Rotational Motion, Energy, & Inertia** Pedagogy	**10.1- 10.7**	20, 21
13-Nov	**Torque & Angular Momentum** Problem Solving	**10.8-10.9** **11.6 - 11.11**	23
20-Nov	**Gravitation** Pedagogy	**13.1 - 13.8**	25, 26
4-Dec	**Thermodynamics** LAB		
11-Dec	**FINAL EXAM**	*All of above*	