

# Physics 12 Course Timeline

Period	Topic	Section	Worksheets (and Labs)	Homework (Tentative Exercises)
1	Introduction and Administrivia			Texts handed out and calculators checked (TI-83 graphing and table features)
2-4	Introduction – Dimensional Analysis, Scientific Notation and Significant Digits, Graphing Data etc.	Ch. 1	Introductory Worksheet	
5	Basic Kinematics - Constant Acceleration	Ch. 2		pg. 39 #'s 1,5,10,12, 16,20-25
6	Basic Kinematics – Falling Objects		Worksheet of Review Questions	pg. 40 #'s 33-37,39, 42,44,45
7-8	Scalars and Vectors ... + and - Vectors	Ch. 3		pg. 65 #'s 1,2,4,5,7,8
9-10	Scalars and Vectors ... Applications			pg. 66 #'s 9,10-12,15
11	Introductory <b>Test</b> (Feb. 11)			
12	Projectile Motion - Intro			pg. 66 #'s 17,18
13	Projectile Motion in General		Measurement of the value of <b>g</b>	pg. 66 #'s 19-24,30-32
14	Projectile Motion is Parabolic		Air Table demo	pg. 70 #'s 62-66
15	Relative Motion			pg. 68 #'s 36-39,44, 46,55,68
16	<b>Quizzes</b> - Kinematics and Projectile Motion (Feb. 17)			
17	Newton's Laws	Ch. 4		pg. 97 #'s 1-10 pg. 98 #'s 1-5
18	Newton's Laws – Free Body Diagrams		Experimenting with Force Vectors	pg. 98 #'s 7-27 (odd)
19	Problems using Newton's Laws - Friction			pg. 101 #'s 36-39,44, 47-49
20-21	Problems using Newton's Laws - Pulleys			pg. 100 #'s 29,31,34
22-23	Problems using Newton's Laws - Inclined Planes			pg. 101 #'s 40-43,45, 50-55,57,64 pg. 104 #'s 78,81,87
24	Review/Flex		Sample Exam Questions 1	

<b>25</b>	<b>Test</b> – Kinematics & Dynamics (March 1)			
<b>26</b>	Uniform Circular Motion - Intro	Ch. 5		pg. 130 #'s 1-8,11, 12,18
<b>27-28</b>	Uniform Circular Motion - Applications			pg. 130 #'s 9,10,14,22
<b>29</b>	Kepler's Laws of Motion			pg. 132 #'s 56-58
<b>30-31</b>	Newton's Law of Universal Gravitation		Calculator Lab - Centripetal Acceleration of Planets	pg. 131 #'s 28-34,36, 38,39-41
<b>32</b>	Gravitational Field Strength			
<b>33</b>	Weightlessness			pg. 132 #'s 43-45, 48-54
<b>34</b>	Review/Flex			
<b>35</b>	<b>Test</b> – Circular Motion (March 25)			
<b>36-37</b>	Work, Energy and Power	Ch. 6		pg. 162 #'s 1-5,8,12, 15-19,27-31,58-60
<b>38</b>	Gravitational Potential Energy		Sample Exam Questions 2	Worksheet
<b>39</b>	Consevation of Mechanical Energy			pg. 163 #'s 33-40,42, 43
<b>40</b>	Law of Conservation of Energy			pg. 164 #'s 47-50,52, 54
<b>41-43</b>	Momentum and its Conservation	Ch. 7	Sample Exam Questions 3	pg. 188 #'s 1-8,12,15, 16
<b>44-46</b>	Momentum in 2-Dim		Oblique Collisions on an Air Table	pg. 188 #'s 17,19, 22-26,31,32

Review for Exam during last week of classes

**Mid-Term Exam (all material completed to date) ... April 14**

<b>47</b>	Conditions for Equilibrium $\sum F=0$	Ch. 9		pg. 247 #'s 1-5,9,11
<b>48</b>	Torque and $\sum T=0$		Rotational Equilibrium	
<b>49-53</b>	Applications		Sample Exam Questions 4	pg. 248 #'s 12,15,16, 20-27
<b>54</b>	Stability and Balance			pg. 250 #'s 36,37
<b>55</b>	Review/Flex			

<b>56</b>	<b>Test</b> – Momentum in 2-Dim & Equilibrium (April 29)			
<b>61</b>	Review: Static Electricity	Ch. 16		
<b>62-64</b>	Electric Force - Coulomb's Law			pg. 465 #'s 1-10, 12-14,18
<b>65</b>	Electric Field Strength			pg. 466 #'s 23-33,36
<b>66</b>	Electric Field & Voltage	Ch. 17		pg. 467 # 41
<b>67-69</b>	Electric Potential			pg. 489 #'s 1-13
<b>70</b>	Potential due to Point Charges			pg. 489 #'s 14-16, 18,20
<b>71</b>	Electric Fields in Cathode Ray Tubes		Sample Exam Questions 5	pg. 491 #'s 65
<b>72</b>	Review/Flex			
<b>73</b>	<b>Test</b> – Electrostatics (May 20)			
<b>74-75</b>	Electric Potential Difference & Current	Ch. 18		pg. 515 #'s 1-3
<b>76</b>	Ohm's Law			pg. 515 #'s 4-11
<b>77</b>	Joule's Law			pg. 516 #'s 26-39
<b>78</b>	Internal Resistance	Ch. 19	Ohm's Law	pg. 547 #'s 1-4
<b>79-80</b>	Resistors in Series and Parallel			pg. 547 #'s 5-19 (odd)
<b>81</b>	Kirchhoff's Laws		Sample Exam Questions 6	pg. 548 #'s 23-27,29
<b>82</b>	Review/Flex			READ sections 19-7&8
<b>83</b>	<b>Test</b> – Electric Circuits (June 2)			
<b>84</b>	Review: Magnets	Ch. 20		READ section 20-1
<b>85</b>	Right Hand Rule		The Right Hand Rules	
<b>86-87</b>	Magnetic Field Strength & Force			pg. 577 #'s 1-5,8
<b>88</b>	Charged Particles in Magnetic Fields			pg. 578 #'s 9-17 (odd), 26-28

<b>89</b>	Mass Spectrometers & Electric Motors		Sample Exam Questions 7	READ sections 20-7, 10,11
<b>90</b>	Faraday's Law of Induction	Ch. 21	Physics Applets - Generator - Electric Motor - Lenz's Law	pg. 610 #'s 1-5,7,9,11
<b>91</b>	Electric Motors & Generators			pg. 611 #'s 20,21
<b>92</b>	Lenz's Law - Counter <i>EMF</i>			pg. 612 #'s 26-29
<b>93</b>	Transformers		Sample Exam Questions 8	pg. 612 #'s 31-37 (odd)
<b>94</b>	Review/Flex			
<b>95</b>	<b>Test</b> – Magnetism & Electromagnetic Induction (June 15)			

	Review for FINAL EXAM		Sample Exam Questions 9	
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**Physics 12 Provincial Exam June 21, 2010 @ 9:00 am**