Course outline for PHYS-111 [General Physics 2] (1st Semester 411)

Textbook:

Physics for Scientists and Engineers with Modern Physics, Ninth Edition
Raymond A. Serway and John W. Jewett, Jr.

No. of Weeks	No. of Lecures	List of Topics	Chapters	Sections	Problems	
Part I: Electricity						
1-2	**6**	Electric field and Electric Potential	**23: Electric fields**	**23.1**	**2**	
				23.3	**9, 12, 13, 15**	
				23.4	**25-27**	
				23.6	**49**	
			25: Electric Potential	**25.1**	**1**	
				25.3	**13, 14, 18**	
				25.4	**36**	
3	**3**	Capacitors	**26: Capacitance and Dielectrics**	**26.1**	**1**	
				26.2	**5**	
				26.3	**13, 14, 19, 23, 25**	
				26.4	**31**	
				26.5	**43**	
4-5	**6**	Direct Electric Current	**27: Current and Resistance**	**27.1**	**6**	
				27.2	**16-18**	
				27.4	**27, 29**	
				27.6	**39-40**	
			28: Direct Current Circuits	**28.2**	**7, 9 ,17, 19, 21**	
				28.3	**22-23**	
Part II: Light and Optics						
6-7	**6**	Nature of Light, Reflection of Light, Refraction of Light	**35: The Nature of Light and the Principles of Ray Optics**	**35.1**	**1**	
				35.2		
				35.3	**5, 7, 8, 15, 21, 22, 28, 39**	
				35.4		
				35.5		
				35.8	**41, 42, 45, 49,**	
8-9	**6**	Thin Lenses and Optical Instruments	**36: Image Formation**	**36.1**	**1**	
				36.2	**8, 9 ,11, 13**	
				36.3	**29, 35**	
				36.4	**38, 39, 40, 42, 43, 45, 46**	
				36.5	**54-55**	
				36.6	**56**	
				36.7	**58, 59, 60, 65**	
				36.8	**66**	
				36.9	**67**	
				36.10	**68-69**	
Part III: Modern Physics						
10-11	**6**	Quantum Theory of Light and Atomic Spectra	**40: Introduction to Quantum Physics**	**40.1**	**1, 6, 8 ,10, 11**	
				40.2	**17, 18, 19, 21**	
				40.5	**39, 40, 42**	
			42: Atomic Physics	**42.1**	**1, 2, 5**	
				42.2	**7**	
				42.3	**9, 10, 11, 17**	
				42.8	**49, 50, 54**	
				42.9	**59, 61**	
				42.10		
12-13	**6**	Atom and Natural Radioactivity, Nuclear reactions	**44: Nuclear Structure**	**44.1**	**1, 2, 4, 5, 6**	
				44.2	**15**	
				44.4	**25, 27, 29, 30, 31, 32, 33**	
				44.5	**35, 38**	
				44.6	**44**	
				44.7	**47, 49**	
14	**1**	Fission and Fusion	**45: Applications of Nuclear Physics**	**45.2**	**1, 2, 4, 7, 8**	
				45.4	**22, 23, 25**	
14-15						

Credit hours distribution:

4 (3+0+2)

3 hours of lectures a week (14 weeks in the semester).
2 hours a week for 10 laboratory experiments.

Marks distribution:

1) **First Midterm Exam ------M1---------- = 15 marks**
2) **Second Midterm Exam ---M2---------- = 15 marks**
3) **Practical Work (Lab.)-----L---------- = 30 marks**
4) **Final Exam----------F---------- = 40 marks**

Total---------- = 100 marks

Chapters Distribution for the Exams:

M1: Part I: Electricity ……...
M2: Part II: Light and Optics ……..
F: All Parts…….

Absence Policy:

I. **Attendance percentage:**
- **Student should attend the course lectures during the 15 weeks of the semester.**
- **Students with absence hours more than 25% of the total course hours will be banned from the Final Exam.**

II. **Absence from Examinations:**
- **If you are unable to attend an examination (first or second midterm) owing to illness or other unavoidable circumstances, you should provide an acceptable evidence of 'good cause' for such absence to the competent commission. If the absence is regarded as authorized, student will grant a Makeup Exam only once.**
- **All Makeup Exams will be scheduled at the same time one week before the Final Exam.**
- **No other Makeup Exam will be done in the same semester. If you miss the Makeup Exam, you will have a mark of zero.**

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