



Bangladesh University of Engineering & Technology
Department of Physics

Course Title: Modern Physics

Course No.: PHY 151 (*Structure of Matter, Electricity & Magnetism and Modern Physics*)

Course Teacher: **Dr. Mohammad Jellur Rahman**

Tentative Lecture Plan

Lecture No.	Topics	Reference No.
1-5	<ul style="list-style-type: none">○ <i>Special relativity, Frame of Reference</i>○ <i>Michelson-Morley Experiment</i>○ <i>Galilean Transformation, Lorentz Transformation Equations</i>○ <i>Postulates of Einstein's Special Theory of Relativity, Length contraction and Time Dilation</i>○ <i>Mass-Energy Relation</i>	1- 3
6-10	<ul style="list-style-type: none">○ <i>Quantum Theory of Radiation</i>○ <i>Photo-Electric Effect</i>○ <i>Compton Effect.</i>○ <i>Wave Particle Duality, Interpretation of Bohr's Postulates</i>	1,3
10-14	<ul style="list-style-type: none">○ <i>Radioactive Disintegration: α, β and γ Decay, Radioactive Decay Law</i>○ <i>Properties of Nucleus, Nuclear Binding Energy, BE Curve</i>○ <i>Nuclear Reactions (NR), Conservation Laws of NR</i>○ <i>Fission, Fusion, Chain Reaction, Nuclear Reactor</i>	1, 3, 4

References:

1. Concepts of Modern Physics – Arthur Beiser
2. Web Address: <http://teacher.buet.ac.bd/mjrahman>
3. Modern Physics – Kenneth S. Krane
4. Elements of Nuclear Physics – Walter E. Meyerhof