Bangladesh University of Engineering & Technology
Department of Physics

Course Title: Modern Physics (Part of PHY 167 for BME)
Course Teacher: **Dr. Mohammad Jellur Rahman**
Web Address: http://mjrahman.buet.ac.bd

Tentative Lecture Plan

Lecture No.	Topics	Reference No.
1-6	○ ***Special relativity, Frame of Reference,*** ○ ***Michelson-Morley Experiment*** ○ ***Galilean Transformation, Lorentz Transformation equations*** ○ ***Postulates of Einstein's Special Theory of Relativity, Length contraction, Time Dilation and*** ○ ***Mass-Energy relation***	**1- 2**
7-10	○ ***Quantum Theory of Radiation*** ○ ***Photo-Electric effect*** ○ ***Compton effect*** ○ ***Wave Particle Duality, Interpretation of Bohr's Postulates***	**1-2**
11-14	○ ***Radioactive disintegration: α, β, γ-decay, Radioactive Decay Law*** ○ ***Properties of nucleus, Nuclear Binding Energy, BE curve*** ○ ***Nuclear Reactions (NR), Conservation laws of NR*** ○ ***Fission, Fusion, Chain reaction, Nuclear reactor***	**1-3**

References:

1. Concepts of Modern Physics – Arthur Beiser
2. Lecture notes: http://mjrahman.buet.ac.bd
3. Modern Physics – Kenneth S. Krane
4. Elements of Nuclear Physics – Walter E. Meyerhof

Bangladesh University of Engineering & Technology
Department of Physics

Course Title: Modern Physics (Part of PHY 153 for WRE)
Course Teacher: **Dr. Mohammad Jellur Rahman**
Web Address: http://mjrahman.buet.ac.bd

Tentative Lecture Plan

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1-6	○ ***Special relativity, Frame of Reference,*** ○ ***Michelson-Morley Experiment*** ○ ***Galilean Transformation, Lorentz Transformation equations*** ○ ***Postulates of Einstein's Special Theory of Relativity, Length contraction, Time Dilation and*** ○ ***Mass-Energy relation***	**1- 2**
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