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	o *Special relativity, Frame of Reference,* o *Michelson-Morley Experiment* o *Galilean Transformation, Lorentz Transformation equations* o *Postulates of Einstein's Special Theory of Relativity, Length contraction, Time Dilation and* o *Mass-Energy relation*	**1- 2**
7-10	o *Quantum Theory of Radiation* o *Photo-Electric effect* o *Compton effect* o *Wave Particle Duality, Interpretation of Bohr's Postulates*	**1-2**
11-14	o *Radioactive disintegration:α, β, γ-decay, Radioactive Decay Law* o *Properties of nucleus, Nuclear Binding Energy, BE curve* o *Nuclear Reactions (NR), Conservation laws of NR* o *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 151 for CE)
Course Teacher: **Dr. Mohammad Jellur Rahman**
Web Address: http://mjrahman.buet.ac.bd

Tentative Lecture Plan

Lecture No.	Topics	Reference No.
1-6	o *Special relativity, Frame of Reference,* o *Michelson-Morley Experiment* o *Galilean Transformation, Lorentz Transformation equations* o *Postulates of Einstein's Special Theory of Relativity, Length contraction, Time Dilation and* o *Mass-Energy relation*	**1- 2**
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BangladeshUniversity of Engineering & Technology
Department of Physics

Course Title: Modern Physics   (Part of PHY 157 for MME)
Course Teacher:**Dr. Mohammad Jellur Rahman**
Web Address: http://mjrahman.buet.ac.bd

Tentative Lecture Plan

Lecture No.	Topics	Reference No.
1-6	o *Special relativity, Frame of Reference,* o *Michelson-Morley Experiment* o *Galilean Transformation, Lorentz Transformation equations* o *Postulates of Einstein's Special Theory of Relativity, Length contraction, Time Dilation and* o *Mass-Energy relation*	**1- 2**
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BangladeshUniversity of Engineering & Technology
Department of Physics

Course Title: Modern Physics   (Part of PHY 117 for IPE)
Course Teacher:**Dr. Mohammad Jellur Rahman**
Web Address: http://mjrahman.buet.ac.bd

Tentative Lecture Plan

Lecture No.	Topics	Reference No.
1-6	o *Special relativity, Frame of Reference,* o *Michelson-Morley Experiment* o *Galilean Transformation, Lorentz Transformation equations* o *Postulates of Einstein's Special Theory of Relativity, Length contraction, Time Dilation and* o *Mass-Energy relation*	**1- 2**
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8. Elements of Nuclear Physics – Walter E. Meyerhof