

Physics Department
Education Collage
Salahaddin University-Erbil

Course Book

Prof. Dr. Asaad Hamid Ismail

Chapter schedules of
Radiation Biology and Nuclear medicine
Ph.D. Candidates (Medical physics)
2023-2024

Chapter 1: Radiation

Types of Radiation (Atomic and Nuclear Radiations)

Chapter 2: Radiation dosimeters (Detection of radiation and radiation measurements)

Chapter 3: Radiation Protection

Radiation Dose (Diagnostic and Therapy)

Chapter 4: Biological Effects of Radiation

2-Interaction of Electrons with Tissue

3-Interaction of Protons with Tissue

4-Interaction of Heavy Ions with Tissue

5-Interactions of Neutrons with Tissue

Chapter 5: Energy transfer to Tissues

Chapter 6: Radiation Oncology

Chapter 7: Practical applications of radiation biology: Laboratory working (Design and radiation collimation and radiation exposure techniques) (blood sides, cell irradiation, polycarbonate detector irradiation)

Chapter (Research Tasks of the candidate) Identification topics of research projects in radiation biology and radiation Oncology (scientific debate)