Principles of Medical Imaging
336502
Updated: Sept. 16 2020

Instructor: Assoc. Prof. Haim Azhari
TA: Gadi mendel
TA – Homework: Noam Freundlich

Consultation Hours will be determined later

Scope: 2 Hours lecture,
1 Hour Frontal Exercise

Credit: 2.5 Points

Course TOPICS

1. Introduction – Basic definitions.
2. X-rays – Physical background, Scatter mechanisms, Applications.
3. Introduction to Tomography- Back projection.
4. Algebraic Reconstruction Tomography (ART).
5. Computerized Tomography (CT) – Slice Theorem, FBP.
7. Single Photon Emission Computerized Tomography (SPECT).
8. Positron Emission Tomography (PET).
10. Ultrasonic Imaging.

Bibliography:
1. Haim Azhari; John A Kennedy; Noam Weiss; Lana Volokh: “From Signals to Image: A Basic Course on Medical Imaging”. Springer, 2020
2. Kak and Slaney

Pre-requisites:

104223 – Partial Differential Equations and Fourier Series
044130 - Signals and Systems

Mark

90% Final Exam
10% Homework assignments – Submission is Mandatory!

Important Note: Homework mark will be included only for those passing the exam!
i.e.:
55% Mark for undergrads
65% Mark For Graduate students