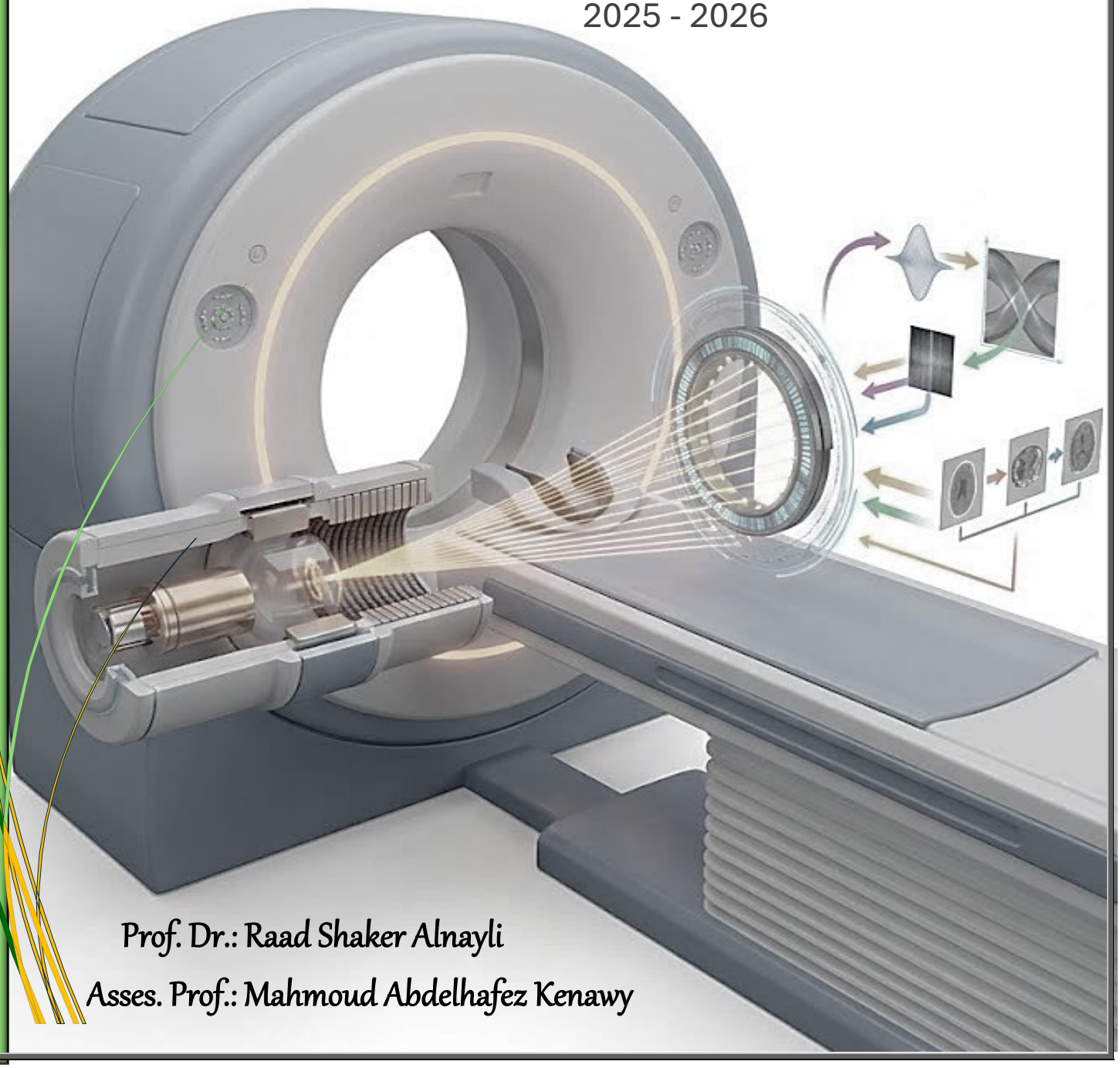
Physics of CT

The Second Stage

Second Semester – First Lecture

2025 - 2026



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Lecture information

Lecture Number: 1

Lecture Title: General Introduction to Physics of Computed Tomography

Target Audience: Second-year students – Radiology Techniques Department

Suggested Duration: 90 Minutes Lecture + 30 Minutes Discussion

OUTLINES:

- **Radiation definition.**
- **X-Ray definition.**
- **X-Ray as type of radiation.**
- **The X-ray ranges are part of the electromagnetic spectrum.**
- **Computed Tomography (CT) definition.**
- **The CT principle depends on the use of X-rays.**
- **Advantages and disadvantages of a CT scan.**
- **Some applications for the CT scan.**

Learning Objectives

By the end of this lecture, students should be able to:

- Define radiation and X-rays.
- Explain why X-rays are classified as a type of radiation.
- Describe the position of X-rays within the electromagnetic spectrum.
- Define computed tomography (CT).
- Understand the basic principle of CT and its dependence on X-rays.
- When is a CT scan performed and when is it not used? What are some applications of CT scans?