



Yale-New Haven
Teachers Institute®

Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
1983 Volume VII: Medical Imaging

Computed Tomography and Nuclear Magnetic Resonance with Mathematical Applications

Guide for Curriculum Unit 83.07.04

by Glen Ann Hagemann and Joseph R. Cummins

Our unit deals with two imaging modalities computed tomography and nuclear magnetic resonance. We explain the ways in which each of these techniques operates and we also explain the applications of each of these modalities. In these ways our unit can readily be used by the science teacher in the classroom. We also deal with the mathematics involved in these modalities. We develop a strong mathematics unit on matrix algebra which can easily be adapted and used by the high school mathematics teacher in several high school mathematics courses. We also included many easy to understand diagrams which make our unit all the easier to use in the high school classroom.

Our unit is one that clearly explains the workings of computed tomography and nuclear magnetic resonance so that a student who has never heard of either of these modalities can easily learn their workings and their role in modern medicine.

(Recommended for High School Algebra I and II, Advanced Functions, Biology and Physics)

Key Words

Teaching Medical Imaging Mathematics Nuclear Tomography Technology NMS Magnetic Resonance NMR

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