

Positron Emission Tomography: Physics Course Development for a Pre- Medical Course*

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Overview

- Project aims.
- Physics concepts within PET technique.
- Delivery methodology.
- Discuss 5 key elements.

2

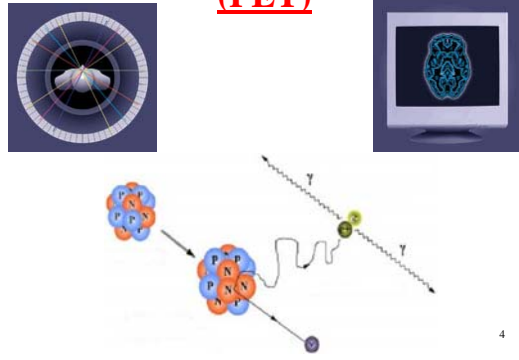
Project Aims

Component of Modern Miracle Medical Machine (MMMM) project.

- Isolate key physics concepts in PET.
- Identify teaching issues.
- Investigate student learning.
- Design a course material.

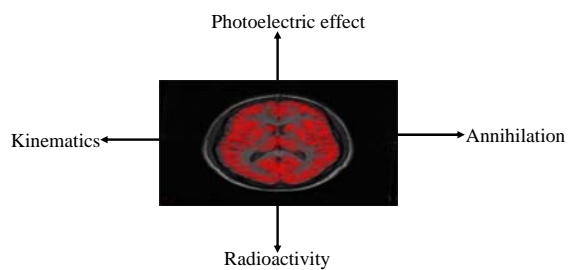
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Positron Emission Tomography (PET)



4

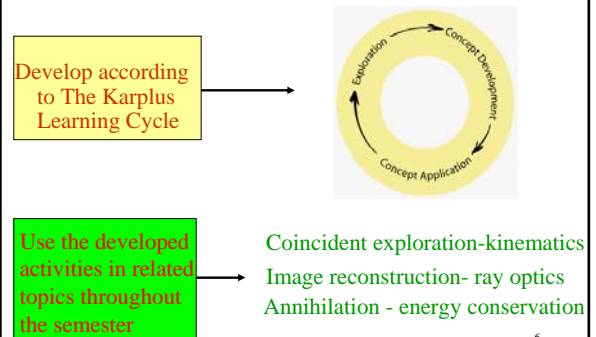
Physics Concepts in PET



Integrate contemporary physics with contemporary medicine via **designed activities**

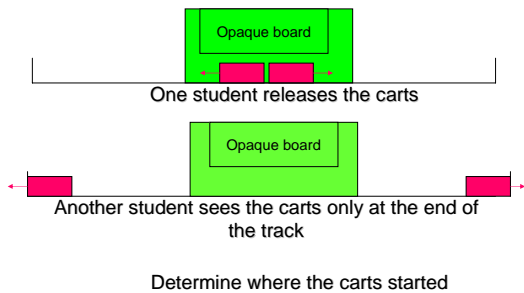
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Activity Development methodology



6

Key element-Coincidence

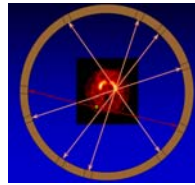


- Student apply the concept in gamma detection

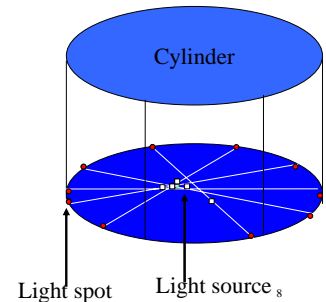
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Key element-Lines of Response

- Line of response and radioisotope location

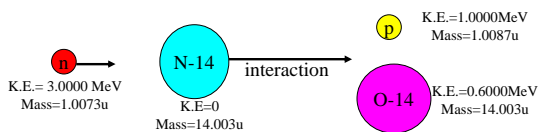


- Exploration using the light source



Key element-Annihilation

- Students explore in nuclear reaction examples to establish the mass energy relation.



- Apply the concept in electron positron annihilation.

9

Summary

➤ Current direction

- Use hands -on activities and computer simulation.
- Simulate abstract phenomena by classical experiments.

➤ Challenges

- Sequencing of material.
- Integration of appropriate summative and formative assessment.

10

Thank you

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11