

## Course Information

### Course Objectives:

PHYS486 aims to give the student basic information about:

- radiation quantities, radiation doses and units
- radiation dosimeters
- biological effects of radiation
- internal and external exposure to radiation
- protection against radiation and radiation shielding
- protection from various sources of radiation, radioactive decontamination and radioactive waste management

The key objectives of the course include a full understanding of radiation physics and radiation protection aspects, as well as developing practical and numerical skills on the safe handling and applications of radiation.

### Textbook:



أساسيات الفيزياء الإشعاعية - محمد فاروق أحمد; أحمد محمد السريع - جامعة الملك سعود 2006

### Course Website:

We will be using Blackboard for our course website.

### Instructor:

Dr. Nadyah Alanazi  
Office # 218  
Email: [nalenazi@ksu.edu.sa](mailto:nalenazi@ksu.edu.sa)  
Office Hours: ... (By email appointment)

### Course Grade:

Midterm: 30%  
Assignments: 20%  
Project: 10%  
Final Exam: 40%

### Materials to be Covered:

Chapters: 1, 2, 3, 4, 5, 8, 9, 10

**Topics to be Covered:**

Nuclear Structure,  
Radioactivity and radiation,  
Interaction of radiation with matter,  
Nuclear radiation detectors,  
Biological effects of the ionizing radiation,  
Dose limits,  
Radiation hazards,  
Applications of radiations (Project)