

**INTRODUCTION TO RADIATION PROTECTION
GS02 1133**

Course Hours: Tuesday and Thursday (2:00 – 3:30 pm)
Two lab sessions - May be after hours or dependent on instructor/equipment availability

Location: FCT 14.5059

Instructors:

Rajat Kudchadker, Ph.D. (Coordinator)
Julie Pollard, Ph.D.
Thomas Nishino, Ph.D.
Cheenu Kappadath, Ph.D.
Richard Wendt, Ph.D.

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Method of Student Evaluation:

20% Homework
10% Quizzes & Therapy Shielding Project
70% Two Exams (Mid-term and Final)

Required Text Material:

NCRP Report 151 – Structural shielding design and evaluation for megavoltage x- and gamma ray radiotherapy facilities (<http://www.ncrppublications.org/Reports/151>)

NCRP Report 147 – Structural shielding design for medical x-ray imaging facilities
(<http://www.ncrppublications.org/Reports/147>)

If you are an AAPM Member you can download these reports from: <http://www.aapm.org/pubs/NCRP/>

Other Reference Material:

Class notes and handouts

Shielding Techniques for Radiation Oncology Facilities: Patton H. McGinley – Medical Physics Publishing
If you are a therapy student this is a great reference book and highly recommended.

Exposure of the Pregnant Patient to Diagnostic Radiations: A guide to medical management 2nd Ed.: Louis K Wagner – Med Phys Publishing

Radiation Protection – A Guide for Scientists, Regulators and Physicians: Jacob Shapiro (4th Edition)

Introduction to Health Physics: Herman Cember (4th Edition)

Health Risks from Exposure to Low Levels of Ionizing Radiation Beir VII: National Research Council of the National Academies

Atoms, Radiation and Radiation Protection: James E. Turner

Other Reports - NCRP, ICRP, NRC, AAPM

20-May-19	Monday		
21-May-19	Tuesday	Introduction and Basic Concepts of Radiation Protection / Radiation Accidents	Julie Pollard-Larkin
22-May-19	Wednesday		
23-May-19	Thursday	Interaction Physics as Applied to Radiation Protection	Julie Pollard-Larkin
24-May-19	Friday		
25-May-19			
26-May-19			
27-May-19	Monday	MEMORIAL DAY HOLIDAY	Holiday
28-May-19	Tuesday	Radiation Detection and Survey Instrumentation	Julie Pollard-Larkin
29-May-19	Wednesday		
30-May-19	Thursday	Radiation Protection Organizations/10CFR20/10CFR35/NCRP/NRC/IAEA/ICRP	Julie Pollard-Larkin
31-May-19	Friday		
1-Jun-19			
2-Jun-19			
3-Jun-19	Monday		
4-Jun-19	Tuesday	MDACC Radiation Safety Program/Radioactive transportation /Personnel Monitoring	Julie Pollard-Larkin
5-Jun-19	Wednesday		
6-Jun-19	Thursday	Radiological quantities and dose limits	Rajat Kudchadker
7-Jun-19	Friday		
8-Jun-19			
9-Jun-19			
10-Jun-19	Monday		
11-Jun-19	Tuesday	Radiation Therapy shielding - NCRP 151 Part I	Rajat Kudchadker
12-Jun-19	Wednesday		
13-Jun-19	Thursday	Radiation Therapy shielding - NCRP 151 Part II	Rajat Kudchadker
14-Jun-19	Friday		
15-Jun-19			
16-Jun-19			
17-Jun-19	Monday		
18-Jun-19	Tuesday	Radiation Therapy shielding - NCRP 151 Part III	Rajat Kudchadker
19-Jun-19	Wednesday		
20-Jun-19	Thursday	Brachytherapy Radiation Protection concepts and shielding	Rajat Kudchadker
21-Jun-19	Friday		
22-Jun-19			
23-Jun-19			
24-Jun-19	Monday		
25-Jun-19	Tuesday	Shielding - vendor perspective	Rajat Kudchadker
26-Jun-19	Wednesday		
27-Jun-19	Thursday	Fetal and Pacemaker issues in Radiation Therapy	Rajat Kudchadker
28-Jun-19	Friday		
29-Jun-19			
30-Jun-19			
1-Jul-19	Monday		
2-Jul-19	Tuesday	MIDTERM EXAM	Kudchadker/Pollard-Larkin
3-Jul-19	Wednesday		
4-Jul-19	Thursday	INDEPENDENCE DAY HOLIDAY	Holiday
5-Jul-19	Friday		
6-Jul-19			
7-Jul-19			
8-Jul-19	Monday		
9-Jul-19	Tuesday	Fetal dose calculations for RF	Thomas Nishino
10-Jul-19	Wednesday		
11-Jul-19	Thursday	NCRP - 147 / RF shielding problem	Thomas Nishino
12-Jul-19	Friday		
13-Jul-19			
14-Jul-19			
15-Jul-19	Monday	AAPM Meeting	
16-Jul-19	Tuesday	AAPM Meeting	
17-Jul-19	Wednesday	AAPM Meeting	
18-Jul-19	Thursday	AAPM Meeting	
19-Jul-19	Friday		
20-Jul-19			
21-Jul-19			
22-Jul-19	Monday		
23-Jul-19	Tuesday	RF shielding problem review and discussion	Thomas Nishino
24-Jul-19	Wednesday		
25-Jul-19	Thursday	Nuclear Medicine Radiation protection concepts / Patient Release / Fetal dosimetry	Richard Wendt
26-Jul-19	Friday		
27-Jul-19			
28-Jul-19			
29-Jul-19	Monday		
30-Jul-19	Tuesday	Nuclear Medicine - PET Shielding	Richard Wendt
31-Jul-19	Wednesday		
1-Aug-19	Thursday	Nuclear Medicine - PET/CT workshop	Richard Wendt
2-Aug-19	Friday		
3-Aug-19			
4-Aug-19			
5-Aug-19	Monday		
6-Aug-19	Tuesday	CT Shielding Design and Fetal Dosimetry	Cheenu Kappadath
7-Aug-19	Wednesday		
8-Aug-19	Thursday	CT dosimetry and Patient Dose	Cheenu Kappadath
9-Aug-19	Friday		
10-Aug-19			
11-Aug-19			
12-Aug-19	Monday		
13-Aug-19	Tuesday	FINAL EXAMINATION	Rajat Kudchadker