

Syllabus for 2020-2021 v1 Radiology Resident Physics Teaching

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H2-577

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Classes are from 7:45-8:45 a.m.

Meeting will be via Zoom until further notice, once we do meet in person the meeting room is S2-302 except when conflict then it will be S7-248 or other.

The textbook is Bushberg JT, et al.: The Essential Physics of Medical Imaging, Lippincott, Williams, & Wilkins, Third Edition, 2012.

The review book is Huda W: Review of Radiologic Physics, Lippincott, Williams, & Wilkins, Fourth Edition, 2016. This review book has text with questions and answers.

Diagnostic Radiology Residents Physics AAPM Curriculum, Updated 2016, provided as pdf. This is an outline of knowledge to be gained plus example questions with answers.

Reference Tables and Information: Radiological Health Handbook. ORAU, 1970 obtain online at:

<https://www.osti.gov/biblio/4708654-radiological-health-handbook>

	<u>Date</u>	<u>Topic</u>	<u>Textbook</u>	<u>Huda</u>	<u>AAPM Curr</u>
1.	Aug 5	Atom and radiation	2: pp. 18-27	1:3-5	Module 1
2.	Aug 12	The Atomic Nucleus	2: pp. 27-32	13:177	Module 1
3.	Aug 19, 26	Nuclear Transformation	15:pp. 582-593	13:177-179	Module 1
4.	Sept 2	Decay Law and Decay Series	15: pp. 579-582 16: pp. 594-608	13:179-181	Module 15
5.	Sept 9, 16, 23	Interactions of Radiation	3: pp. 33-51	1:8-10	Module 2
6.	Sept 30, Oct 7, 14	Radiation Protection + MIRD	21: pp. 837-909 16: pp 617-632	4:47-54 6:75-84	Module 7
7.	Oct 21	Radiation Biology	20: pp. 751-836	5:61-70	Module 6
6.	Oct 28, Nov 11, 18	Radiation Detectors	17: pp.633-667	13:182-184	Module 15
		Note: Mike at meeting Nov 4 so no class			
7.	Nov 25	Computer Vision Applications in Radiology		Handout	

8.	Dec 2	Statistics	17: pp. 667-673		Module 5
9.	Dec 9	Medical Imaging Informatics	5: pp. 101-167		Module 5
10.	Dec 16	Production of x-rays	6: pp. 171-175	1:5-8	Module 4
11.	Jan 6	X-ray tube	6: pp. 176-190	1:9-11 7:91-98	Module 4
12.	Jan 13	X-ray generator	6: pp. 191-198		Module 4
13.	Jan 20	Rating Charts and Tube Loading	6: pp. 199-206		Module 4
14.	Jan 27	Transition from Film to Digital	7: pp. 207-214	2:20-22	Module 8
15.	Feb 3	Scatter and Grids	7: pp. 230-237	2:17-20	Modules 8+9
16.	Feb 10, 17	Image Quality	4. pp. 60-100	3:31-42	Module 9
17.	Feb 24, Mar 3	DR and CR	7: pp. 214-230	2:22-27	Module 8
18.	Mar 10, 17	Mammography	8: pp. 238-281	8:105-115	Module 10
19.	Mar 24	Fluoroscopy and TV	9: pp. 282-311	9:119-130	Module 11
20.	Mar 31 Apr 7	CT and Reconstruction	10+11: pp. 312-401	11:147-157	Module 5+12
21.	Apr 15, 21, 28	CT and CT Dose	10+11: pp. 312-401	12:161-171	Module 12
23.	May 5, 12	NMR	12: pp. 402-448	15:205-216	Module 14
24.	May 19, 26, June 2	MRI	13: pp. 449-499	16:221-233	Module 14
22.	June 9, 16, 23, 30	Ultrasound	14: pp. 500-576	17:237-246 18:251-260	Module 13
25.	July 7, 14, 21, 28	Nuclear Medicine	18+19: pp 674-747	13:184-187	Module 15

Additionally in February through May for third year residents there will be reviews sessions of Huda, RSNA Rad Bio Syllabus, RAPHEX, RSNA-AAPM Med Phys website, other practice exams, and some visits to clinic to see QC equipment, etc for the ABR board exam.