

MONTH	Week	Subject	DIDACTIC			PRACTICAL	
			LECTURES	Lecturer	Self Study Topics	ROTATION	Supervisor
JUL	1		No Lecture			Introd. to the Department	
	2	Radiobiology	No Lecture		Geom. & Trig. Review Pt Immobilization & CT	UCI Patient Simulation Protocols	Sim Therapist
		Physics	Physics Review	M. Al-Ghazi, PhD		Introduction to ECLIPSE	D. Roa
		Clinical lectures	TBA	TBA		Introduction to MIM	TBA
	3	Radiobiology	No Lecture		Geom. & Trig. Review Pt Immobilization & CT	3D-CRT Brain Test Plans	S. Dietrich
		Physics	Physics Review	M. Al-Ghazi, PhD			
		Clinical lectures	TBA	TBA			
	4	Radiobiology	No Lecture		Geom. & Trig. Review Pt Immobilization & CT	3D-CRT Brain Test Plans	S. Dietrich
		Physics	Physics Review	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
5					IMRT Brain Test Plans	S. Dietrich / D. Roa	
	Physics	No Lecture					
	Clinical lectures	TBA	TBA				
AUG	1	Radiobiology	No Lecture		TG-142 Study	IMRT/VMAT Brain Test Plans	S. Dietrich / D. Roa
		Physics	Physics Review	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
	2	Radiobiology	Annual Radiation Safety In-Service	John Gratzle		VMAT Brain Test Plans	S. Dietrich
		Physics	Structure of Matter	M. Al-Ghazi			
		Clinical lectures	TBA	TBA			
	3	Radiobiology	No Lecture			3D-CRT Pelvis Test Plans	W. Braggins
		Physics	Structure of Matter and Radioactivity and X-Ray Production	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
	4	Radiobiology	No Lecture		Report / Presentation	3D-CRT Pelvis Test Plans	W. Braggins
Physics		Radioactivity and X-Ray Production/ Interaction with Radiation	M. Al-Ghazi, PhD.				
Seminar		TBA	TBA				
SEP	1	Radiobiology	Overview course: Interactions of Ionizing radiation with biological systems (#1) DNA damage types and assays (#2)	C. Limoli, Ph.D.	TG-51 Study	IMRT Pelvis Test Plans	D. Roa
		Physics	Interaction of Radiation with Matter I	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
	2	Radiobiology	Molecular DNA repair (#3) Questions and review	C. Limoli, Ph.D.		VMAT Pelvis Test Plans	W. Braggins
		Physics	Interaction of Radiation with Matter II / Clinical Radiation Generators	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
	3	Radiobiology	Apoptosis (#5)	C. Limoli, Ph.D.		3D-CRT Chest / Abdomen Test Plans	S. Dietrich
		Physics	Clinical Radiation Generators	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
	4	Radiobiology	Survival curves & cell death mechanisms (#6) Chromosome aberrations (#4)	C. Limoli, Ph.D.	Report / Presentation	3D-CRT Chest / Abdomen Test Plans	S. Dietrich
Physics		Clinical Radiation Generators	M. Al-Ghazi, PhD.				
Seminar		TBA	TBA				
OCT	1	Radiobiology	No lecture		TG-119 Study	IMRT Chest / Abdomen Test Plans	S. Dietrich / D. Roa
		Physics	Clinical Radiation Generators	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
	2	Radiobiology	LET, RBE, OER (#7) Cellular repair (PLDR, SLDR), dose rate effects (#8)	C. Limoli, Ph.D.		VMAT Chest / Abdomen Test Plans	S. Dietrich
		Physics	Quality of X-Ray Beams	M. Al-Ghazi, PhD.			
		Chief rounds	TBA	TBA			
	3	Radiobiology	No lecture			3D-CRT Head-and-Neck Test Plans	W. Braggins
		Physics	Quality of X-Ray Beams	M. Al-Ghazi, PhD.			
		Clinical lectures	TBA	TBA			
	4	Radiobiology	Normal tissue damage (#9) Tumor responses (#10)	C. Limoli, Ph.D.		3D-CRT Head-and-Neck Test Plans	W. Braggins
Physics		Measurement and Calculation of Absorbed Dose I	M. Al-Ghazi, PhD.				
Clinical lectures		TBA	TBA				

	5	Radiobiology	TBA	TBA	Report / Presentation	IMRT Head-and-Neck Test Plans	W. Braggins / D. Roa
		Physics	TBA	TBA			
		Clinical lectures	TBA	TBA			
NOV	1	Radiobiology	/ ratios – dose fractionation (#15)	C. Limoli, Ph.D.	ICRU 83 Study	IMRT Head-and-Neck Test Plans	W. Braggins
		Physics	Electron Beams I: Principles, Interactions and Dosimetry	V. Sehgal, Ph.D.			
		Clinical lectures	TBA	TBA			
	2	Radiobiology	Hypoxia, angiogenesis & tumor microenvironment (#11)	C. Limoli, Ph.D.	IMRT Head-and-Neck Test Plans	W. Braggins	
		Physics	Measurement and Calculation of Absorbed Dose I/ Dose II	M.Al-Ghazi, Ph.D.			
		Clinical lectures	TBA	TBA			
	3		THANKSGIVING HOLIDAY --- Nov. 22-23, 2012			THANKSGIVING HOLIDAY --- Nov. 22-23, 2012	
	4	Radiobiology	Cell cycle and tissue kinetics (#12)	C. Limoli, Ph.D.	Report / Presentation	HDR Tandem & Ovoids Test Plans	S. Dietrich / V. Sehgal
		Physics	Measurement and Calculation of Absorbed Dose II/III	M.Al-Ghazi, Ph.D.			
		Seminar	TBA	TBA			
DEC	1	Radiobiology	Chemotherapy (#14)	C. Limoli, Ph.D.	QUANTEC Study	HDR Cylinder / Capri Test Plans	S. Dietrich / V. Sehgal
		Physics	Measurement and Calculation of Absorbed Dose II/III	M.Al-Ghazi, Ph.D.			
		Clinical lectures	TBA	TBA			
	2	Radiobiology	Signaling (#16) / Molecular biology (#17)	C. Limoli, Ph.D.	HDR Savi Test Plans	S. Dietrich / V. Sehgal	
		Physics	Measurement and Calculation of Absorbed Dose III	M.Al-Ghazi, Ph.D.			
			Chief rounds	TBA	TBA		
	3	Radiobiology	Dose Distribution and Scatter Analysis I	M.Al-Ghazi, Ph.D.	HDR Biliary Test Plans	S. Dietrich / V. Sehgal	
		Physics					
		Clinical lectures					TBA
	4	Radiobiology	Break		Report / Presentation		
		Physics					
		Seminar					
JAN	1	Radiobiology	Dose Distribution and Scatter Analysis II	M.Al-Ghazi, Ph.D.	TBI / TSEI Study	CLINICAL TREATMENT PLANNING ANY SITE, ANY TECHNIQUE	RAD. ONCOLOGISTS MED. PHYSICISTS
		Physics					
		Clinical lectures					
	2	Radiobiology	Dose Distribution and Scatter Analysis III	M.Al-Ghazi, Ph.D.			
		Physics					
			Clinical lectures	TBA	TBA		
	3	Radiobiology	Radiation units (#18)/ Radiation effects and the human body (#19)	C. Limoli, Ph.D.			
		Physics	Treatment Planning I: Isodose Distributions	M.Al-Ghazi, Ph.D.			
		Clinical lectures	TBA	TBA			
	4	Radiobiology	Treatment Planning I: Isodose Distributions	M.Al-Ghazi, Ph.D.			
		Physics					
		Clinical lectures	TBA	TBA			
5	Radiobiology	Electron Beams II: Clinical Applications	V. Sehgal, Ph.D.	Report / Presentation			
	Physics						
	Seminar					TBA	TBA
FEB	1	Physics	Electron Beams III: Treatment Planning	V. Sehgal, Ph.D.	Fetal Dose Study	CLINICAL TREATMENT PLANNING ANY SITE, ANY TECHNIQUE	RAD. ONCOLOGISTS MED. PHYSICISTS
				TBA			
			Chief rounds	TBA	TBA		
	2	Physics	Electron Beams III: Treatment Planning	V. Sehgal, Ph.D.			
		Clinical lectures	TBA	TBA			
	3	Physics	Large Field Radiotherapy: WAI, HBI TBI, TSET	M. Al- Ghazi, PhD			
		Physics	Treatment Planning II: Patient Setup and Treatment Aids	M.Al-Ghazi, Ph.D.			
			Clinical lectures	TBA	TBA		
	4	Physics	Brachytherapy I: Principles and Sources	V. Sehgal, Ph.D.	Report / Presentation		
		Seminar	TBA	TBA			

MAR	1		MDCB IN-TRAINING EXAM	D. Roa Ph.D.	SRS / SBRT Study	CLINICAL TREATMENT PLANNING ANY SITE, ANY TECHNIQUE	RAD. ONCOLOGISTS MED. PHYSICISTS	
	2		LDR/HDR brachytherapy physics	TBA				
	3	Radiobiology						
		Physics	Brachytherapy II: Systems of Dose Calculations	V. Sehgal, Ph.D				
		Clinical lectures	TBA	TBA				
	4	Physics	Brachytherapy III: Treatment Planning and Clinical Applications	V. Sehgal, Ph.D				Report / Presentation
Seminar		TBA	TBA					
APR	1				Permanent Seed Implant Study	CLINICAL TREATMENT PLANNING ANY SITE, ANY TECHNIQUE	RAD. ONCOLOGISTS MED. PHYSICISTS	
		Physics	Brachytherapy IV: Remote Afterloading Techniques and HDR	V. Sehgal, Ph.D				
		Clinical lectures	TBA	TBA				
	2							
		Physics	REVIEW	V. Sehgal, Ph.D				
		Chief rounds	TBA	TBA				
	3							
		Physics	Quality assurance of Radiotherapy I	D. Roa, Ph.D				
		Clinical lectures	TBA	TBA				
	4	Radiobiology						
		Physics	Quality assurance of Radiotherapy II	D. Roa, Ph.D				Report / Presentation
		Seminar	TBA	TBA				
MAY	1	Radiobiology			LDR, MDR & IORT Study	CLINICAL TREATMENT PLANNING ANY SITE, ANY TECHNIQUE	RAD. ONCOLOGISTS MED. PHYSICISTS	
		Physics	Radiation Protection	D. Roa, Ph.D				
		Clinical lectures	TBA	TBA				
	2							
		Physics	Conformal Therapy	D. Roa, Ph.D				
		Clinical lectures	TBA	TBA				
	3	Radiobiology						
		Physics	Fundamentals of Computers / Review	D. Roa, Ph.D				
		Clinical lectures	TBA	TBA				
	4		RAPHEX EXAM	M. Al-Ghazi, PhD				
			Residents visit LLUMC	B. Patyal				Report / Presentation
	JUN	1	Physics	RAPHEX Exam Review				M Al-Ghazi, PhD
2			RABEX EXAM	J.L. Redpath, PhD				
3		Radiobiology			Report / Presentation			
		Physics						
		Seminar						
4		Radiobiology	RABEX Exam Review	J.L. Redpath, PhD				
				END OF TRAINING				