

**Physics Lecture Schedule (Virtual)
2024 – 2025 WEDNESDAYS 7am-8am**

Date	Topic
9/4/2024	Intro and Fundamentals, Atomic Structure
9/11/2024	Charged Particle Interactions
9/18/2024	Photons Interactions, Dose, Kerma
9/25/2024	Photons Interactions, Dose, Kerma
No class for the WEEK OF ASTRO	
10/9/2024	Radioactive Decay
10/16/2024	Radiation Generators and Accelerators
10/23/2024	Radiation Generators and Accelerators
10/30/2024	Radiation Measurements, Detections and Calibrations
11/6/2024	Radiation Measurements, Detections and Calibrations
11/13/2024	Imaging for Radiation Therapy
11/20/2024	Imaging for Radiation Therapy
TAKE HOME EXAM 1 -No class for Thanksgiving Week	
12/4/2024	First 30min Q&A (7:30 – 8 am)
12/11/2024	Patient Setup, Simulation, and Segmentation
12/18/2024	Patient Setup, Simulation, and Segmentation
No class for WINTER BREAK	
1/8/2025	Treatment Planning: Classical, 3DCRT
1/15/2025	Treatment Planning: Classical, 3DCRT
1/22/2025	Dose Ratios and MU Calculations
1/29/2025	Electron Therapy
2/5/2025	Electron Therapy
2/12/2025	Dose Calculation Algorithms
2/19/2025	IMRT and Optimization
2/26/2025	SRS, SBRT & Special Procedures (e.g. TBI, IORT, BetaCath)
3/5/2025	SRS, SBRT & Special Procedures (e.g. TBI, IORT, BetaCath)
TAKE HOME EXAM 2 – WEEK OFF	
3/19/2025	Second Q&A (7:30 – 8 am)
3/26/2025	Rad Protection/Shielding/Safety/Regulation
4/2/2025	Brachytherapy
4/9/2025	Brachytherapy
4/16/2025	Brachytherapy
4/23/2025	Hyperthermia physics
4/30/2025	Artificial Intelligence and Machine Learning
5/7/2025	Proton, Heavy Ion, and Neutron Therapy
5/14/2025	Proton, Heavy Ion, and Neutron Therapy
5/21/2025	Medical error and failure mode analysis
TAKE HOME EXAM 3 – WEEK OFF	
6/4/2025	Final 30min Q&A (7:30 – 8 am)