

Location: Zoom Based Distance Teaching.

Times: Tuesday &amp; Friday 9:00 – 10:30am

Date	Lecture number	
Sep 10		No Classes – TA Orientation
Sep 13 – HC	1	Course Introduction
Sep 16 – HC <b>Assign #1</b>	2	Electron interactions, Charged particles, stopping power
Sep 20 – HC	3	Stopping power (cont'd), LET
Sep 23 – HC <b>Assign #2</b>	4	Exposure, Dose, Kerma
Sep 27 – HC	5	Heavy charged particles and neutrons
Sep 30		<b>Truth and Reconciliation Day – No Classes</b>
Oct 4 – SZ <b>Assign #3</b>	6	Atomic and Nuclear Structure, Radioactivity and Decay
Oct 7 – SZ	7	X-ray attenuation and absorption
Oct 11 – SZ <b>Assign #4</b>	8	Thompson and Rayleigh scattering, Compton effect
Oct 14 – SZ	9	
Oct 18 – SZ <b>Assign #4 Due Oct 19</b>	10	Photoelectric effect, Pair production
Oct 21 – SZ/HC		<b>Mid-Term (NB this is 2.5 hours duration)</b>
Oct 25 – MG	11	Introduction to Clinical Medical Physics
Oct 28 – MG <b>Assign #5</b>	12	Isotope Machines
Nov 1 – MG	13	Clinical X-ray Production
Nov 4 – MG	14	LINACS
Nov 8		<b>Reading/Midterm Break – No Class</b>
Nov 11		<b>Reading/Midterm Break – No Class</b>
Nov 15 – MG	15	LINACS
Nov 18 – MG	16	LINACS
Nov 22 – DH <b>Assign #6</b>	17	Radiation protection and safety – Introduction, effects and standards
Nov 25 – DH	18	Occupational & Medical & Public Exposure, General shielding calculations
Nov 29 – DH	19	Radiation Protection: Linac installation & Shielding calculations
Dec 2 – DH <b>Assign #6 due</b>	20	Source handling, safety/shielding design, environment, waste
Dec 5 – MG/DH		Course Review

Course final mark weightings: Assignments 25%, Mid-Term Exam 37%, Final Exam 38%

NB: A BC Cancer Facility tour to be arranged at mutually agreeable time at the Vancouver, Kelowna &amp; Victoria Clinics (usually after hours)

Course Coordinator      WB = Dr. Wayne Beckham, BC Cancer – Victoria  
Lecturers:                MG = Dr. Mehran Goharian, BC Cancer – Victoria  
                                      DH = Dr. Derek Hyde, BC Cancer – Kelowna  
                                      SZ = Dr. Sergei Zavgorodni, BC Cancer – Victoria  
                                      HC = Dr. Haley Clark, BC Cancer – Surrey  
                                      TA = Helena Koniar

Contacts for Vancouver Students:

Dr. Samantha Lloyd, BC Cancer – Vancouver

**Assignments:** Unless otherwise stated, assignments are due in the same date as the next assignment is given.

**The main textbook is:**

E.B. Podgorsak, Review of  
Radiation Oncology Physics:

A Handbook for Teachers and Students

(Freely available on IAEA website at:

[https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwj6KmkqubUAhUX3WMKHWtLBU4QFggoMAA&url=http%3A%2F%2Fwww-pub.iaea.org%2Fmtcd%2Fpublications%2Fpdf%2Fpub1196\\_web.pdf&usg=AFQjCNHKVo-1doK6R5fgkun\\_C428WHleJA](https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwj6KmkqubUAhUX3WMKHWtLBU4QFggoMAA&url=http%3A%2F%2Fwww-pub.iaea.org%2Fmtcd%2Fpublications%2Fpdf%2Fpub1196_web.pdf&usg=AFQjCNHKVo-1doK6R5fgkun_C428WHleJA) )

**UVIC Requirement:** Calculators – On all examinations the only acceptable calculator is the Sharp EL-510R.  
This calculator can be bought in the Bookstore for about \$10. DO NOT bring any other calculator to examinations.

*Revised 30 August, 2022*