



COURSE Schedule - Physics 535

2022 Schedule: Lecture times are Mondays (13:00-14:30) and Fridays (9:00-10:30). All lectures will be given online via Zoom. Classroom options may become available later in the term.

Schedule:

| Lecture # | Date | Material Covered | Instructor |
|-----------|-----------|--|------------|
| 1 | 10 Jan | Introduction to radiation therapy | IS |
| 2 | 14 Jan | Photon and electron beam properties | IS |
| 3 | 17 Jan | Dose calculation formalism | IS |
| 4 | 21 Jan | Point dose calculations | IS |
| 5 | 24 Jan | Customized field shaping and scatter analysis | IS |
| 6 | 28 Jan | Off-axis dose and dose modification | IS |
| 7 | 31 Jan | Oblique incidence, irregular surfaces and inhomogeneities: effects and corrections | IS |
| 8 | 4 Feb | Radiotherapy treatment planning: patient data acquisition and target definition | IS |
| 9 | 7 Feb | Conformal 3D treatment planning: optimization criteria and beam weighting | IS |
| 10 | 11 Feb | Conformal 3D treatment planning: beam apertures and beam arrangements | IS |
| 11 | 14 Feb | Internal shielding and adjacent field matching | IS |
| 12 | 18 Feb | Treatment verification and image registration | IS |
| | 21-25 Feb | Reading week – no classes | |
| | 28 Feb | Midterm | |
| 13 | 4 Mar | Computerized dose calculations I | TP |
| 14 | 7 Mar | Computerized dose calculations II | TP |
| 15 | 11 Mar | Moving beams, total body irradiation | AB |
| 16 | 14 Mar | Intensity Modulated Radiation Therapy | RK |
| 17 | 18 Mar | Brachytherapy: sources and apparatus | TM |
| 18 | 21 Mar | Brachytherapy: dose calculations | TM |
| 19 | 25 Mar | Brachytherapy: treatment planning | TM |
| 20 | 28 Mar | Proton Beam Therapy | RK |
| 21 | 1 Apr | Stereotactic techniques (Linac, Cyberknife, Gamma Knife), Tomotherapy | AB |
| 22 | 4 Apr | Motion management: planning and delivery | AB |
| 23 | 8 Apr | Radiation therapy errors and quality assurance | IS |