

## **Therapeutic Medical Physics (TMP) Oral Exam Content**

### **1. Reference and relative dosimetry**

- Reference dosimetry: Absolute calibration for photons, electrons, protons, and low-energy x-rays
- Ion chamber and electrometer design, characteristics, application, and QA
- Other dosimeters design, characteristics, application, and QA
- Survey detectors design and application
- Film design, characteristics, application, and QA

### **2. Treatment machines**

- Photon and electron medical accelerators
- Proton units
- Specialized machines (design and function)
- Therapy imaging (including physics, equipment design, application, image reconstruction, acceptance testing, and commissioning)
- Shielding and radiation safety

### **3. External beam treatment planning, uncertainty management, and treatment planning system QA**

- Photon treatment planning
- Electron treatment planning
- Management of uncertainties
- Treatment planning for specialized machines
- Treatment planning system QA

### **4. Brachytherapy, radiation protection, radiation biology**

- Brachytherapy
- Treatment room shielding
- Brachytherapy treatment planning
- Radiation protection
- Radiation biology

## 5. Patient safety, data transfer and integrity, professionalism, and ethics

- Patient-specific treatment delivery QA
- Quality control and error prevention
- Incident learning systems and medical event reporting
- Computing & IT
- [Professionalism and ethics](#)