Diagnostic and Therapeutic Nuclear Medicine:

One Week Intensive Short Course

Monday, May 10

9:00  Introduction and Welcome
9:30  Nuclear Medicine – Basic Principles
10:00 Radionuclide Production and Distribution
      Cyclotron-produced
      Reactor-produced
11:00 Radiopharmaceutical Production and Testing
12:00 Lunch
1:00  Radiopharmaceuticals – Characteristics and Uses
      Diagnostic agents
      Therapeutic agents
3:00  Nuclear Pharmacies
4:00  The Drug Approval Processes

Tuesday, May 11

9:00  Nuclear Medicine – Facilities and Equipment
      Imaging devices – theory and operation
10:00 Miscellaneous – thyroid uptake measurements, others.
11:00 Quality Assurance Procedures
12:00 Lunch
1:00  Nuclear Medicine – In-vivo studies – organ systems – Diagnosis, Therapy
      Cardiovascular
      Pulmonary
2:00  Bone
      Renal
3:00  Neurology
      Endocrinology
4:00  Oncology
      Inflammation

Wednesday, May 12

9:00  Nuclear Medicine – Gastroenterology/Endocrine/Hematology
10:00 Radiation Safety
      Functions of key personnel
      Safe handling of patients
      Protection of staff and visitors
      ALARA programs
      Area surveys
      Training
12:00 Lunch
1:00 Radiation Biology
   Mechanisms of damage to biological systems
   Stochastic vs. nonstochastic effects
2:00 Cell survival studies
   Recent developments – bystander effects, genomic instability
3:00 Radiation dosimetry – patients
   Standard dose estimates
   Patient-specific dose calculations
4:00 Pediatric and potentially pregnant subjects

Thursday, May 13

9:00 Regulatory aspects
   Licenses
   Reportable events
10:00 Transport and receipt of radioactive material
   Emergency procedures
11:00 Quality assurance programs
   Waste storage and disposal
   Records
12:00 Lunch
1:00 Afternoon – site visits

Friday, May 14

9:00 Discussion Period
10:00 Exam
11:00 Discussion of Exam Results
12:00 Course End