Checklist Practical Components of the Radiopharmacy Syllabus

Topic		Period(s)	Institute(s)	Visum Supervisor(s)
1.	**Working in a sterile environment**			
	aseptic technique			
	monitoring personal technique			
	monitoring the environment			
2.	**Use of safe radiation practices**			
	procedures for personal dose limitation and monitoring			
	contamination monitoring			
	accidents involving radioactivity			
	local and national regulations and procedures			
	radioactive waste disposal			
3.	**Documentation of radiopharmaceutical procedures**			
	standard operating procedures			
	product and equipment specifications			
	records of radiopharmaceutical preparation			
	records of analysis and other processes			
4.	**Use, maintenance and calibration of equipment used in radiophamacies**			
	radioisotope calibrator (ionisation chamber, Aktivimeter): accuracy, constancy, linearity and geometry effects (refer to national laws and regulations)			
	contamination monitors: efficiency, minimum detectable activity			
	(gamma) scintillation counters: efficiency, resolution, minimum detectable activity, counting statistics			
	liquid scintillation counter: efficiency and counting statistics			
	laminar flow hoods / radioisotope work-stations			
	centrifuges			
	balances			
5.	**Procurement of Radiopharmaceuticals**			
	Types and limits of radionuclide material that can be ordered			
	Ordering radiopharmaceuticals consideration of purchase orders, suppliers ordering schedules and times, precalibration times record keeping, including familiarity with computer procedures			
	Receipt of radiopharmaceuticals delivery procedures, trace of delayed shipments, surveys wipe tests, radioassay, packaging, disposal			
	storage requirements, record keeping logs			
6.	**Radiopharmaceutical preparation**			
	Elution of a ^{99m}Mo-^{99m}Tc generator; quality control of eluates			
	Preparation of ^{99m}Tc radiopharmaceuticals using 'kits'			
	Preparation of 'in-house' radiopharmaceuticals (non-kit; optional)			
	Labelling of red and white blood cells			

7.	**Quality control of radiopharmaceuticals**			
	Radionuclidic purity using absorption methods gamma-ray spectroscopy, T1/2 determination			
	Radiochemical purity using thin-layer chromatography solid-phase extraction and HPLC methods			
	Chemical purity: pH, aluminium-ion content			
	Particle size of particulate radiopharmaceuticals filtration, light microscopy			
	Pharmaceutical acceptability visual inspection, sterility, freedom from endotoxin (Limulus test)			
8.	**Supply of radiopharmaceuticals**			
	Dispensing, labelling, allocation of control numbers expiry dates, packaging, transport			
9.	**Participation in research and development projects**			
	Presentation of work at an open scientific meeting			
10.	**General experience**			
	two weeks in a centre preparing PET radiopharmaceuticals or single-photon radiopharmaceuticals (non-kit) if this is not included in their three year experience			
11.	**Clinical experience**			
	two weeks in a clinical department of nuclear medicine including observation of patient handling, operation of imaging equipment, interpretation of images and quantitative data			
Supervisors must sign on the checklist or, if they write an accompanying letter, state which topics listed in the checklist have been covered in their institute				