

**MASTER OF RADIOLOGY [M. RAD (UM) & MMED (RAD) (UKM)]
PART I CONJOINT TEACHING PROGRAM
SESSION 2020/2021 (INTAKE DECEMBER 2020)**

Guideline to time table:

9.00 am - 11.00 am Physics
11.15 am - 12.15 pm Radiography/Photography
2.00 pm - 5.00 pm Radiology - Anatomy & Techniques

No.	Date	Place	Time	Topic	Lecturer
1	05/01/2021	UM	9.00 am - 11.00 am	BASIC PHYSICS FOR RADIOLOGY - Atomic and nuclear structure - Electromagnetic radiation - International system of Units	En. Muhammad Shahrudin Nizam Ahmad Daman Huri Dr. Chan Wai Yee
			11.15 am – 12.15 pm	-	
			2.00 pm – 5.00 pm	URINARY SYSTEM I - Kidneys & ureters URINARY SYSTEM II - Kidneys & ureters	
2	12/01/2021	UM	9.00 am – 11.00 am	RADIOACTIVITY - Nuclear parameters - Decay schemes - Radionuclide production	En. Muhammad Shahrudin Nizam Ahmad Daman Huri Cik Khadijah Ramli Dr.FadhliMohd Sani
			11.15 am - 12.15 pm	RADIOGRAPHY - Abdomen including acute abdomen	
			2.00 pm – 5.00 pm	URINARY SYSTEM III - Urinary bladder, - Male & Female urethra URINARY SYSTEM IV - Blood vessels & adrenals	

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3	19/01/2021	UM	9.00 am - 11.00 am	PRODUCTION OF X-RAYS - X-ray tube design - X-ray production - The X-ray spectrum	En. Muhammad Shahrudin Nizam Ahmad Daman Huri
			11.15 am – 12.15 pm	RADIOGRAPHY - Upper limb including shoulder girdle	Cik Khadijah Ramli
			2.00 pm – 5.00 pm	GIT I - all salivary glands, oral cavity, mouth & oropharynx. GIT II - Esophagus	Dr.Mohammad NazriMd Shah
4	26/01/2021	UM	9.00 am - 11.00 am	GENERAL INTERACTION OF X- AND GAMMA-RAYS WITH MATTER - Absorption vs. Scatter - Linear attenuation coefficient - Effect and control of scattered radiation	Dr. Azlan Che Ahmad
			11.15 am – 12.15 pm	RADIOGRAPHY - Lower limb & Pelvis.	Cik Khadijah Ramli
			2.00 pm – 5.00 pm	GIT III - Stomach, duodenum GIT IV - Small intestine & Colon	Dr.Cheah peng Loon

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No.	Date	Place	Time	Topic	Lecturer
5	02/02/2021	UM	9.00 am - 11.00 am	INTERACTION OF X- AND GAMMA-RAYS WITH THE ATOM - Photoelectric and Compton processes. - Relation to atomic number of material and photon energy - Effects on irradiated materials	Dr.Azlan Che Ahmad
			11.15 am – 12.15 pm	RADIOGRAPHY - Chest including ribs.	Cik Khadijah Ramli
			2.00 pm –5.00 pm	ABDOMEN I - Lymphatics & peritoneal spaces ABDOMEN II - Aorta, IVC	Dr. Norshazriman Sulaiman
6	09/02/2021	UM	9.00 am - 11.00 am	MEASUREMENT OF X- AND GAMMA-RAYS - Exposure and exposure-rate meters - Thermoluminescent dosimetry (TLD) - Film dosimetry - Radionuclide detection, measurement and spectrometry - Scintillation detectors and photomultiplier tubes	Prof.Dr. Ng Kwan Hoong
			11.15 am – 12.15 pm	-	
			2.00 pm –5.00 pm	UPPER LIMBS BONES AND JOINTS - Shoulder, wrist, elbow UPPER LIMB VESSELS	Prof.MadyaDr. Faizatul IzzaRozalli

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7	16/02/2021	UKM	9.00 am – 11.00 am	IMAGE RECEPTOR I <ul style="list-style-type: none"> - Intensifying screens, conventional vs. Rare-earth - Films - Film processing - Radiography and films faults 	Dr Mohamad Ariff Jaafar Sidek
			11.15 am – 12.15 pm	RADIOGRAPHY - PRACTICAL (Demonstration and Film analysis) <ul style="list-style-type: none"> - Upper limb including shoulder girdle. - Lower limb & pelvis 	AP Kanaga Kumari Chelliah
			2.00 pm – 5.00 pm	UPPER LIMBS BONES AND JOINTS <ul style="list-style-type: none"> - Hip, knee, ankle UPPER LIMB VESSELS	Dr. Emilia Rosniza Muhammed Rusli
8	23/02/2021	UKM	9.00 am – 11.00 am	IMAGE RECEPTOR II <ul style="list-style-type: none"> - Image intensifier (II) tube - II-TV systems: fluoroscopy, cinefluorography - Recording media 	Dr Mohamad Ariff Jaafar Sidek
			11.15 am – 12.15 pm	RADIOGRAPHY - PRACTICAL (Demonstration and Film analysis) <ul style="list-style-type: none"> - Abdomen - Chest including ribs 	AP Kanaga Kumari Chelliah
			2.00 pm – 5.00 pm	RIS I <ul style="list-style-type: none"> - Nasopharynx, oropharynx, laryngopharynx RIS II <ul style="list-style-type: none"> - Neck, larynx 	PM Dr Faizah Mohd Zaki

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No.	Date	Place	Time	Topic	Lecturer
9	02/03/2021	UKM	9.00 am – 11.00 am	RADIOLOGICAL IMAGE QUALITY - Geometric factors - Contrast, noise and resolution	Dr Rozana Hussain
			11.15 am – 12.15 pm	PHOTOGRAPHY I Image acquisition – Conventional, CR and DR, CR and DR issues	AP Kanaga Kumari Chelliah
			2.00 pm – 5.00 pm	RS III - Trachea, Bronchial Tree & Lung	Dr Rizwana Iqbal Hussin
10	09/03/2021	UKM	9.00 am - 11.00 am	QUALITY ASSURANCE - Methods of assessing image quality - Methods of monitoring equipment performance	Dr Hanani Abdul Manan
			11.15 am – 12.15 pm	PHOTOGRAPHY II Image Quality and QA (Conventional)	AP Kanaga Kumari Chelliah
			2.00 pm – 5.00 pm	RS IV - Thoracic cage & pleura. RS V - Mediastinum	Dr Juliana Fairuz Maktar

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No.	Date	Place	Time	Topic	Lecturer
11	16/03/2021	UKM	9.00 am - 11.00 am	RADIATION PROTECTION I - Sources of radiation - Biological effects of radiation - Radiation quantities and units - Objectives and principles of radiation protection - Recommendation of ICRP - ALARA	Dr Mohamad Ariff Jaafar Sidek
			11.15 am – 12.15 pm	PHOTOGRAPHY III Image Quality and QA (Digital)	AP Kanaga Kumari Chelliah
			2.00 pm – 5.00 pm	RS VI - Arteries & veins. RS VII - Lymphatics & thymus	Dr Nik Azuan Nik Ismail
12	23/03/2021	UKM	9.00 am - 11.00 am	RADIATION PROTECTION II - Dose limitations. - Radiation monitoring, personnel monitoring - Legislation radiation protection regulations - Protection of the patient, staff and the public - Radiation protection methods in specific procedures - Safe handling of radioactive materials	Dr Mohamad Ariff Jaafar Sidek
			11.15 am – 12.15 pm	PHOTOGRAPHY IV Mammography Technique	AP Kanaga Kumari Chelliah
			2.00 pm – 5.00 pm	CVS I - Heart. CVS II - Vessels, aorta, pulmonary artery coronary, arteries, veins.	Dr. Isa Azzaki

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No.	Date	Place	Time	Topic	Lecturer
13	30/03/2021	UM	9.00 am - 11.00 am	RADIONUCLIDE IMAGING I - Radiopharmaceuticals	En. Muhammad Shahrudin Nizam Ahmad Daman Huri
			11.15 am – 12.15 pm	-	
			2.00 pm – 5.00 pm	BILIARY SYSTEM I - Liver, biliary ducts, gallbladder.	
14	06/04/2021	UM	9.00 am – 11.00 am	RADIONUCLIDE IMAGING II - The gamma camera - Camera performance	En. Muhammad Shahrudin Nizam Ahmad Daman Huri
			11.15 am – 12.15pm	Skull Standard Pituitary Fossa Paranasal Sinuses Mastoids and Temporal Bone	
			2.00 pm – 5.00 pm	BILIARY SYSTEM II - Pancreas, Spleen	

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No.	Date	Place	Time	Topic	Lecturer
15	13/04/2021	UM	9.00 am –11.00 am	RADIONUCLIDE IMAGING III - Tomography : SPECT and PET	En. Muhammad Shahrin Nizam Ahmad Daman Huri
			11.15 am -12.15pm	RADIOGRAPHY - Skull including facial bones. - Practical Demonstration - Film analysis	Cik Khadijah Ramli
			2.00 pm – 5.00 pm	CNS I - meninges, CSF, cisterns, various lines & measurement	Dr.Ng Wei Lin
16	20/04/2021	UM	9.00 am –11.00 am	DIGITAL RADIOGRAPHY I - Digital concept - Digital image : Resolution, matrix size, Information content - Digital systems : Direct and indirect digital Radiography - Digital Image quality	Prof.MadyaDr. Jeannie Wong Hsiu Ding
			11.15 am – 12.15pm	RADIOGRAPHY - Spine	Cik Khadijah Ramli
			2.00 pm – 5.00 pm	CNS II - Brain + ventricles	Dr.Nadia

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17	27/04/2021	UM	9.00 am –11.00 am	DIGITAL RADIOGRAPHY II - Image processing - Image Display	Prof.MadyaDr. Jeannie Wong Hsiu Ding
			11.15 am -12.15pm	-	
			2.00pm – 5.00 pm	CNS III - Arterial & Venous System + Sinuses	
18	04/05/2021	UKM	9.00 am – 11.00 am	COMPUTED TOMOGRAPHY I - Basic components - Types of scanning geometry - Data collection; CT numbers - Beam hardening and partial volume effects	Dr Hanani Abdul Manan
			11.15 am -12.15 pm	RADIOGRAPHY – PRACTICAL (Demonstration and Film analysis) - Spine - Skull	
			2.00 pm –5.00 pm	CNS IV - Spinal cord, vertebral column, meninges & vessels	
					Dr Leong Yuh Yang

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19	15/06/2021	UKM	9.00 am - 11.00 am	COMPUTED TOMOGRAPHY II - Image reconstruction - Display; windowing - Image quality - Artefacts - Evaluation of system performance	Dr Hanani Abdul Manan
			11.15 am – 12.15 pm	CT Technique	AP Kanaga Kumari Chelliah
			2.00 pm – 5.00 pm	FEMALE I - Uterus (including gravid uterus), fallopian tubers, ovaries, vagina. FEMALE II - Female pelvis, blood supply, lymphatics.	Dr Erica Yee Hing
20	22/06/2021	UM	9.00 am - 11.00 am	MAMMOGRAPHY - Basic principles - imaging characteristics - artefacts - quality control	Prof.Dr. Ng Kwan Hoong
			11.15 am – 12.15 pm	-	
			2.00 pm – 5.00 pm	FEMALE III - Anatomy & Ultrasound dating of the normal fetus.	Prof. Madya Dr.Anushya Vijayananthan

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21	29/06/2021	UM	9.00 am - 11.00 am	FLUOROSCOPY AND DSA - The fluoroscopy system - Fluoroscopic image - Dose rates - Digital subtraction angiography	En. Tan Li Kuo
			11.15 am – 12.15 pm	-	
			2.00 pm – 5.00 pm	FEMALE IV - Breast. MALE GENITAL SYSTEM - Testis, epididymis, seminal vesicles, prostate.	
22	06/07/2021	UM	9.00 am – 11.00 am	PICTURE ARCHIVING AND COMMUNICATIONS SYSTEM - Image acquisition systems - Image storage and archiving - Retrieval, networking and communication - Workstation: display and image processing - Teleradiography	En. Tan Li Kuo
			11.15 am -12.15pm	-	
			2.00 pm – 5.00 pm	ENDOCRINE - Pituitary gland, thyroid & parathyroid.	

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23	13/07/2021	UKM	9.00 am – 11.00 am	ULTRASOUND IMAGING I - Wave properties - Interaction of ultrasound with tissue - Basic instrumentation: the transducer - Overview of scanning modes	Dr Mohamad Ariff Jaafar Sidek
			11.15 am -12.15 pm	-	
			2.00 pm – 5.00 pm	OPHTHALMOLOGY - Orbits, Lacrimal ducts. OPHTHALMOLOGY - Eyes & optic nerve.	
24	27/07/2021	UKM	9.00 am – 11.00 am	ULTRASOUND IMAGING II - Real time scanning, Doppler, colour Doppler - Imaging parameters and system performance	Dr Mohamad Ariff Jaafar Sidek
			11.15 am -12.15 pm	-	
			2.00 pm –5.00 pm	ENT I - Ear. ENT II - Nose & Paranasal Sinuses.	

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25	03/08/2021	UKM	9.00 am – 11.00 am	ULTRASOUND IMAGING III - Artefacts - quality control - Biological effects	Dr Mohamad Ariff Jaafar Sidek
			11.15 am -12.15 pm	-	
			2.00 pm – 5.00 pm	NUCLEAR MEDICINE I	Dr Aida Widure Mustapha
26	17/08/2021	UKM	9.00 am – 11.00 am	MAGNETIC RESONANCE IMAGING I - Basic principles: T1, T2 - Instrumentation - Basic imaging sequences	Dr Rozana Hussain
			11.15 am -12.15 pm	MRI Technique	AP Kanaga Kumari Chelliah
			2.00 pm –5.00 pm	NUCLEAR MEDICINE I	Dr Aida Widure Mustapha

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27	24/08/2021	UKM	9.00 am – 11.00 am	MAGNETIC RESONANCE IMAGING II - Image formation: gradient fields - The MR image; concept of T1, T2 and proton density weighting - System performance	Dr Rozana Hussain
			11.15 am -12.15 pm	-	
			2.00 pm – 5.00 pm	TRAUMA I - Upper limbs	Dr Nik Farhan Nik Fuad
28	07/09/2021	UKM	9.00am – 11.00 am	MRI III - Artefacts - Quality control - MR Safety	Dr Rozana Hussain
			11.30 am -12.45 pm		
			2.00 pm - 4.15 pm	TRAUMA II - Lower limbs	Dr Ahmad Tarmizi Musa