MAGNETIC RESONANCE IMAGING TRAINING COURSE GUIDE

2025-2026

LECTURE AND LABORATORY

VISION	ATC Diagnostic Imaging Specialization Programs aims to set the global standard in the practice of acquiring diagnostic images.
MISSION	To produce reliable Medical Imaging Professionals who are globally competitive, supported with intensive training facility and upgraded instructional materials by the team of specialized physicians and qualified medical professionals.
GOALS	Guided by its vision and mission, ATC aims to: 1. provide advanced and specialized instruction that will produce globally competitive and well-rounded trainees. 2. promote career development for Radiologic Technologists. 3. increase the quality of patient care services. 4. foster expertise in the field of medical imaging. 5. nurture compassion and integrity of the healthcare team

INSTRUCTOR/S' INFORMATION

Name:		**PRC License No.:**	
Email:		**Contact number:**	
Name:		**PRC License No.:**	
Email:		**Contact number:**	

COURSE INFORMATION

Course Code	TC- MRI	**Course Title**	MRI Training Course	**LECTURE HOURS** **CLINICAL HOURS**	**10 hours** **100 hours**
Course Description	This course covered the basic, common and core competencies in acquiring MRI images.				
Qualifications of Trainees	• must be a licensed Radiologic Technologist • must accomplish all the necessary forms and documents prior training. • must be at least 21 years old				
Course Outcomes	At the end of the course, the trainees are expected to: 1. assess their clients who shall undergo routine examinations taking into consideration the requirements for each procedure. 2. demonstrate how to conduct various MRI procedures with confidence using standard protocols 3. acquire, document and save MRI images and videos. 4. recognize emergency situations in clients undergoing MRI examinations				

Day	Topic	Intended Learning Outcomes (ILO)	Assessment	Teaching and Learning Activities
BASIC COMPETENCY				
1	**I. BASIC PRINCIPLES** A. Atomic Structure B. Motion in the Atom C. The hydrogen nucleus D. Resonance E. The Larmor Equation F. T1 Recovery	• Outline the development of MRI in medical imaging. • Define the terms related to the application of MRI. • Understand the physical aspects of MRI. • Identify the parameters to be use for different pathology.	• **Chapter Quiz**	**Synchronous:** Online Conferencing **Asynchronous:** Online Modules

	G. T2 Decay H. Pulse timing parameters I.			
2	**II. PARAMETERS AND TRADE-OFFS and PULSE SEQUENCES** A. Signal to Noise Ratio B. Contrast to Noise Ratio C. Spatial Resolution D. Scan-time E. Trade-offs F. Decision Making G. Volume imaging H. Pulse Sequences	• Understand SNR, CNR and spatial resolution • Able to select appropriate parameter and pulse sequence for particular pathology of certain body part	• **Chapter Quiz**	**Synchronous:** Online Conferencing **Asynchronous:** Online Modules
2	**III. INSTRUMENTATION AND EQUIPMENT** A. Types of Magnet B. Type of Coils C. Radio frequency D. Patient Transport system E. MR computer systems and user interface	• Understand different types of magnet use in MRI unit • Identify which type of coil to be use for particular MRI examination • Identify which type of patient transport system can be use inside the magnet room • Familiarize to different tools and computer applications in MRI	• **Chapter Quiz**	**Synchronous:** Online Conferencing **Asynchronous:** Online Modules
COMMON COMPETENCY				

3	**IV. CROSS-SECTIONAL ANATOMY** A. Neuro anatomy B. Thoracic Anatomy C. Abdominopelvic Anatomy D. Musculoskeletal Anatomy	• Understand the basic anatomy and physiology. • Identify the anatomy in cross- section and its relationship to adjacent structures.	• **Chapter Quiz**	**Synchronous:** Online Conferencing **Asynchronous:** Online Modules

CORE COMPETENCIES				
	V. MR SAFETY **A. Government Guidelines** **B. Projectiles** **C. Siting consideration** **D. MRI facility zones** **E. Safety Education** **F. Protecting the general public from the fringe field** **G. Metallic implants and prostheses** **H. Pacemakers** **I. Safety Policy and tips**	• Proactively prevent any potential incidents or hazards within the magnet room to ensure patient safety. • Conduct thorough patient screenings prior to examination to identify any contraindications and ensure appropriate preparation. • Respond promptly and effectively to patient emergencies, providing immediate assistance and ensuring optimal care.		
5	**VI. IMAGING PROCEDURES** **A. HEAD** **B. NECK** **C. CHEST** **D. ABDOMINOPELVIC** **E. HEPATOBILIARY** **F. PELVIS AND REPRODUCTIVE SYSTEM**	• Differentiate normal anatomy to organs with diseases seen by MRI. • Understand the technical considerations for each procedure. • Perform the techniques, preparations and acquisition	• **Chapter Quiz**	**Synchronous:** Online Conferencing **Asynchronous:** Online Modules

	G. MUSKULOSKELETAL SYSTEM	of plain, contrast-enhanced and special procedures in MRI.		

Course Requirements

1. Textbook: Westbrook ,Roth, Talbot. (2011) MRI in Practice, 4th Edition: Wiley Blackwell

Prepared by:	**Checked by:**