



MANIPAL
ACADEMY of HIGHER EDUCATION

(Deemed to be University under Section 3 of the UGC Act, 1956)

Manipal College of Health Professions

Manipal Academy of Higher Education, Manipal

Outcome-Based Education (OBE) Framework

Two Years Full Time

Postgraduate Program

(Choice-Based Credit System)

Master of Science in Medical Imaging Technology (MSc. MIT)

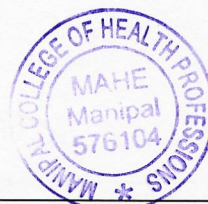
With effect from July 2024



2. PROGRAM EDUCATION OBJECTIVES (PEOs)

The overall objective of the learning outcome-based curriculum framework (LOCF) for Master of Science in Medical Imaging Technology are as follows:

PEO No.	Education Objective
PEO 1	Students will be able to use their fundamental knowledge and clinical competence in various scientific aspects of Radiology and Imaging Field
PEO 2	Students will demonstrate strong and well defined clinical / practical skills in field of Radiodiagnosis and Imaging
PEO 3	Students will be able to practice the profession with highly professional and ethical attitude, strong communication skills, and to work in an inter-disciplinary team so as to provide Medical Imaging Services
PEO 4	Students will be able to use interpersonal and collaborative skills to identify, assess and formulate problems and execute the solution to assess Medical Imaging Services
PEO 5	Students will be able to imbibe the culture of research, innovation, entrepreneurship and incubation through evidence-based practice
PEO 6	Students will be able to participate in lifelong learning process for a highly productive career and will be able to relate the concepts of trends and issues in the discipline of Radiology and Imaging Sciences.



5. PROGRAM OUTCOMES (POs):

After successful completion of Masters / MSc Medical Imaging Technology program students will be able to:

PO No.	Attribute	Competency
PO 1	Domain knowledge	Possess and acquire scientific knowledge to work as a health care professional
PO 2	Clinical/ Hands-on skills	Demonstrate and possess clinical and hands-on skills to provide quality health care services
PO 3	Team work	Demonstrate team work skills to support shared goals with the interdisciplinary health care team to improve societal health
PO 4	Ethical value & professionalism	Possess and demonstrate ethical values and professionalism within the legal framework of the society
PO 5	Communication	Communicate effectively and appropriately with the interdisciplinary health care team and the society
PO 6	Evidence based practice	Demonstrate high quality evidence based practice that leads to excellence in professional practice
PO 7	Life-long learning	Enhance knowledge and skills with the use of advancing technology for the continual improvement of professional practice
PO 8	Entrepreneurship, leadership and mentorship	Display entrepreneurship, leadership and mentorship skills to practice independently as well as in collaboration with the interdisciplinary health care team

6. COURSE STRUCTURE, COURSE WISE LEARNING OBJECTIVE, AND COURSE OUTCOMES (COs)

SEMESTER - I

Course code	Course title	Credit distribution (L,T,CL are hours/week)				Marks Distribution		
		L	T	CL	CR	IAC	ESE	Total
ABS5301	Advanced Biostatistics and Research Methodology	3	1	-	4	30	70	100
MIT5301	Radiographic Equipment and Techniques	3	1	-	4	50	50	100
MIT5302	Radiographic Procedures	3	1	-	4	50	50	100
MIT5303	Advanced Instrumentation and Techniques in CT - I	2	1	-	3	50	50	100
MIT5304	Clinical practice of Radiographic Procedures and CT	-	-	15	5	50	50	100
Total		11	4	15	20	230	270	500

Note:

- ESE for MIT5301, MIT5302, MIT5303 will be conducted for 100 marks & normalized to 50 marks.
- ESE for ABS5301 will be conducted for 50 marks and normalized to 70 marks
- ESE for MIT5304 will be conducted for 100 marks and normalized to 50 marks

SEMESTER -II

Course code	Course title	Credit distribution (L,T,CL are hours/week)				Marks Distribution		
		L	T	CL	CR	IAC	ESE	Total
EPG5401	Ethics & Pedagogy	1	1	-	2	100	-	100
MIT5401	Advanced Instrumentation and Techniques in CT - II	2	1	-	3	50	50	100
MIT5402	Radiation Evaluation and Protection	3	1	-	4	50	50	100
MIT5403	Advanced Instrumentation and Techniques in MRI - I	2	1	-	3	50	50	100
MIT5404	Care of Patients in Diagnostic Imaging	2	1	-	3	50	50	100
MIT5405	Clinical Practice of CT and MRI	-	-	15	5	50	50	100
Total		10	5	15	20	350	250	600

Note:

- ESE for MIT5401, MIT5402, MIT5403, MIT5404 will be conducted for 100 marks and normalized to 50 marks
- ESE for MIT5405 will be conducted for 100 marks and normalized to 50 marks.

Note: At the end of first year the student will be completing the IRC and IEC Registration

SEMESTER - III

Course code	Course title	Credit distribution (L,T,CL are hours/week)					Marks Distribution		
		L	T	PW	CL	CR	IAC	ESE	Total
MIT6301	Advanced Instrumentation and Techniques in Ultrasonography	3	1	-	-	4	50	50	100
MIT6302	Nuclear Medicine Imaging Techniques	2	1	-	-	3	50	50	100
MIT6303	Advanced Instrumentation and Techniques in MRI - II	2	1	-	-	3	50	50	100
MIT6304	Image Interpretation and Analysis - I	2	1	-	-	3	100	-	100
MIT6305	Clinical Practice of Ultrasonography, Nuclear Medicine and MRI	-	-	-	12	4	50	50	100
MIT6306	Research Project - I	-	-	9	-	3	100	-	100
TOTAL		9	4	9	12	20	400	200	600

Note:

- ESE for MIT6301, MIT6302, MIT6303, will be conducted for 100 marks and normalized to 50 marks
- ESE for MIT6305 will be conducted for 100 marks and normalized to 50 marks

SEMESTER - IV

Course code	Course title	Credit distribution (L,T,CL are hours/week)					Marks Distribution		
		L	T	PW	CL	CR	IAC	ESE	Total
MIT6401	Interventional Radiology	2	1	-	-	3	50	50	100
MIT6402	Image Interpretation and Analysis - II	2	1	-	-	3	100	-	100
MIT6403	Hospital Administration	2	-	-	-	2	100	-	100
MIT6404	Clinical practice in Diagnostic Radiology	-	-	-	12	4	50	50	100
MIT6405	Research Project - II	-	-	15	-	5	50	50	100
MIT *****	Program Elective	3	-	-	-	3	50	50	100
TOTAL		9	2	15	12	20	400	200	600

Note:

- ESE for MIT6401 will be conducted for 100 marks and normalized to 50 marks
- ESE for MIT6404, MIT6405 will be conducted for 100 marks and normalized to 50 marks

PROGRAM ELECTIVE

Semester	Course Code	Course Title	Credit (s) Distribution (L,T,P,CL are hours/ week)							
			L	T	P	CL	CR	IAC	ESE	Total
IV	MIT6406	Machine Learning in Medical Imaging	2	1	-	-	3	50	50	100
IV	MIT6407	Hybrid and Fusion Imaging Techniques	2	1	-	-	3	50	50	100