INTEGRAL UNIVERSITY, LUCKNOW

INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

DEPARTMENT OF PARAMEDICAL SCIENCES

MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES (MMRIS)

SYLLABUS AND EVALUATION SCHEME

YEAR/ SEMESTER

II/III & II/IV

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PEOs-POs-PSOs

Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: MMRIS **Semester-III**

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	RS601	Quality Assurance and Quality Control in Diagnostic Radiology and Imaging	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	RS602	Interventional & Nuclear Medicine Techniques	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	RS603	Research Methodology and Biostatics	Core	3	1	0	40	20	60	40	100	3:1:0	4
PRACTICAL													
1	RS604	Synopsis	Core	0	3	0	50	50	00	00	100	0:3:0	3
2	RS605	Residency – III Lab	Core	0	0	10	40	20	60	40	100	0:0:5	5
3	RS606	Quality Assurance and Quality Control in Diagnostic Radiology and Imaging - Lab	Core	0	0	8	40	20	60	40	100	0:0:2	2
4	RS607	Interventional & Nuclear Medicine Techniques – Lab	Core	0	0	8	40	20	60	40	100	0:0:2	2
Total				**09**	**06**	**26**	**290**	**170**	**360**	**240**	**700**	**24**	**24**

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	RS601	Quality Assurance and Quality Control in Diagnostic Radiology and Imaging	Core	√	√	√			√	√	3,4
2	RS602	Interventional & Nuclear Medicine Techniques	Core	√	√	√	√		√	√	3,4
3	RS603	Research Methodology and Biostatics	Core	√	√	√	√		√	√	3,4
PRACTICAL											
1	RS604	Synopsis	Core	√	√	√			√	√	3,4
2	RS605	Residency – III Lab	Core	√	√	√	√		√	√	3,4
3	RS606	Quality Assurance and Quality Control in Diagnostic Radiology and Imaging - Lab	Core	√	√	√	√		√	√	3,4
4	RS607	Interventional & Nuclear Medicine Techniques – Lab	Core	√	√	√	√		√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination, AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: MMRIS **Semester-IV**

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	RS608	Advanced CT, MRI & USG	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	RS609	Patient Care in Diagnostic Radiology	Core	3	1	0	40	20	60	40	100	3:1:0	4
PRACTICAL													
1	RS610	Seminar	Core	0	3	0	50	50	100	00	100	0:3:0	3
2	RS611	Residency – IV Lab	Core	0	0	10	40	20	60	40	100	0:0:5	5
3	RS612	Advanced CT, MRI & USG Lab	Core	0	0	8	40	20	60	40	100	0:0:4	4
4	RS613	Dissertation	Core	0	10	0	40	20	60	40	100	0:10:0	10
Total				**06**	**15**	**18**	**250**	**150**	**400**	**200**	**600**	**30**	**30**

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	RS608	Advanced CT, MRI & USG	Core	√	√	√	√		√	√	3,4
2	RS609	Patient Care in Diagnostic Radiology	Core	√	√	√	√		√	√	3,4
PRACTICAL											
1	RS610	Seminar	Core	√	√	√			√	√	3,4
2	RS611	Residency – IV Lab	Core	√	√	√	√		√	√	3,4
3	RS612	Advanced CT, MRI & USG Lab	Core	√	√	√	√		√	√	3,4
4	RS613	Dissertation	Core	√	√	√	√		√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES (MMRIS)

Program Educational Outcomes (PEOs)

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The educational goals of the curriculum reflect the knowledge, skills, and behaviors expected of program graduates. The graduates of the Integral University MMRIS program will be expected to:

PEO1:	Be advanced leaders in the profession.
PEO2:	Be compassionate, caring healthcare professionals.
PEO3:	Be eligible, well-prepared, and able to sit for and pass the credentialing examination.
PEO4:	Have immediate job placement within six months of graduation.
PEO5:	Work in advanced imaging fields and sit for advanced imaging Examinations.
PEO6:	Identify with and contribute to the aims and ideals of the profession.
PEO7:	Practice in an ethical and legal manner.

MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES (MMRIS)

PROGRAMME OUTCOMES (POs)

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PROGRAMME OUTCOMES (POs) and their Attributes: -

Radio imaging Graduates will be able to-

PO-1:	Understanding ways of functioning effectively as an individual independently and as a member in a diverse team in multidisciplinary settings. (Attitude)
PO-2:	Understanding requirements of continuing education as a function of growth and maintenance of professional competence. (Lifelong learning)
PO-3:	Understanding environmental consciousness and societal concerns in achieving sustainable development. (Environment and Sustainability)
PO-4:	Applying computer skills in the health care system and taking entrepreneurial decisions. (Entrepreneurship)
PO-5:	Applying knowledge to assess societal, health, safety and legal issues related to professional practice. (Social interaction & effective citizenship)
PO-6:	Applying systematized problem-solving techniques to identify and correct procedural errors to verify the accuracy of laboratory results obtained. (Problem analysis and solving)
PO-7:	Applying appropriate techniques, resources and tools with an understanding of limitations. (Technology savvy/usage)
PO-8:	Developing the ability towards ethical as well as critical thinking. (Critical thinking)
PO-9:	Executing professional conduct and interpersonal communicational skills effectively with society at large. (Communication)
PO-10:	Have the technical ability to correctly repeat images, when the quality is not adequate for diagnostics.
PO-11:	Demonstrate radiation safety for self, staff, and patients as set foRSh by the ALARA standards.
PO-12:	Demonstrate an understanding of advanced multiple imaging modalities and the need for lifelong learning.

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Program Specific Outcomes (PSOs)

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PROGRAMME SPECIFIC OUTCOME (PSOs)

The aim of the course is to provide comprehensive, training to the students that prepare them for providing a quality diagnosis of the patients so that at the end of the course he/she will be able to perform the following:

PSO1:	Understanding the basic concepts, and theories of applied sciences (physics, chemistry, Anatomy, physiology, biochemistry, pathology) relevant to radiological imaging techniques.
PSO2:	Remembering the relationship between physics, radiology & modern imaging.
PSO3:	Understanding provisions for radiation safety by various national & international regulatory bodies and applying quality assurance measures.
PSO4:	Safety procedures and maintenance of radiological equipment.
PSO5:	Operating all radiological and imaging equipment independently and performing the image processing in X-Ray, Fluoroscopy, Computed Tomography, Dual Energy X-Ray Absorptiometry (DEXA), Mammography, Digital Subtraction Angiography, Magnetic Resonance Imaging, Ultrasonography, and Nuclear Medicine.