



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

**M.S. Ramaiah University of Applied Sciences**  
**Programme Structure and Course Details**  
**Of**  
**MD Radio Diagnosis 2022 onwards**

**M.S. Ramaiah University of Applied Sciences**  
**Ramaiah Medical College**

Registrar  
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Shalini  
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Approved by the Academic Council meeting held on 27<sup>th</sup> September 2022



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

**M.S. Ramaiah University of Applied Sciences**

**Programme Specifications**

**MD Radio Diagnosis Programme 2022**

**onwards**

**Programme Code: MD138**

**M.S. Ramaiah University of Applied Sciences**

Registered  
M.S. Ramaiah University of Applied Sciences  
Bangalore - 560 054

**Ramaiah Medical College**

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*M. S. Ramaiah*

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## University's Vision, Mission and Objectives

The M. S. Ramaiah University of Applied Sciences (MSRUAS) will focus on student-centric professional education and motivates its staff and students to contribute significantly to the growth of technology, science, economy and society through their imaginative, creative and innovative pursuits. Hence, the University has articulated the following vision and objectives.

### Vision

MSRUAS aspires to be the premier university of choice in Asia for student centric professional education and services with a strong focus on applied research whilst maintaining the highest academic and ethical standards in a creative and innovative environment

### Mission

Our purpose is the creation and dissemination of knowledge. We are committed to creativity, innovation and excellence in our teaching and research. We value integrity, quality and teamwork in all our endeavors. We inspire critical thinking, personal development and a passion for lifelong learning. We serve the technical, scientific and economic needs of our Society.

### Objectives

1. To disseminate knowledge and skills through instructions, teaching, training, seminars, workshops and symposia in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to equip students and scholars to meet the needs of industries, business and society
2. To generate knowledge through research in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to meet the challenges that arise in industry, business and society
3. To promote health, human well-being and provide holistic healthcare
4. To provide technical and scientific solutions to real life problems posed by industry, business and society in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences
5. To instill the spirit of entrepreneurship in our youth to help create more career opportunities in the society by incubating and nurturing technology product ideas and supporting technology backed business
6. To identify and nurture leadership skills in students and help in the development of our future leaders to enrich the society we live in
7. To develop partnership with universities, industries, businesses, research establishments, NGOs, international organizations, governmental organizations in India and abroad to enrich the experiences of faculties and students through research and developmental programme

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Programme Specifications: MD Radiotherapy

Faculty	Ramaiah Medical College
Department	Radio diagnosis
Programme	MD –Radio diagnosis
Programme Code	MD138
Dean of Faculty	Dr Shalini C Nooyi
Head of the Department	Dr Umesh K.

1. **Title of the Award:** MD in Radiology diagnosis
2. **Mode of Study:** Full-Time
3. **Awarding Institution /Body:** M. S. Ramaiah University of Applied Sciences, Bengaluru
4. **Joint Award:** Not Applicable
5. **Teaching Institution:** Faculty of Medicine, Ramaiah Medical College
6. **Date of Programme Specifications:** September 2022
7. **Programme Approval by the Academic Council of MSRUAS:** 27<sup>th</sup> September 2022
8. **Programme Approving Regulating Body and Date of Approval:** National Medical Council of India
9. **Rationale for the Programme**

The purpose of PG education is to create specialists who would provide high quality healthcare and imaging techniques through research & training. Radiology is a highly specialized and technical discipline in clinical medicine in which efficient diagnosis is made with the help of advanced imaging modalities so as to help facilitate the ideal treatment for the patient through medical and interventional procedures. With a view to update, by inclusion of newer topics, and to provide a uniform syllabus and course contents in Indian universities and teaching medical institutions, the proposed guidelines provide course outlines based on recent developments in clinical medicine and other disciplines related to Radiology.



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**Programme objectives (PO) for MD Radiology Postgraduate students**

- PO1.** Develop the knowledge, skills and attitude to be a competent Radiologist (C, P).
- PO2.** Demonstrate a commitment to excellence and continuous professional development with integrity, compassion and sensitivity to patient care. (A)
- PO3.** Acquire and develop the knowledge, skills and attitude required to be a competent and ethical researcher and teacher. (A, C, P)
- PO4.** Be able to independently diagnose and report X-Rays, ultrasounds, CT and MRI and also perform FNAC, Biopsies and other image guided procedures with a reasonable degree of professionalism and competence. (P)

**10. Programme specific outcome (PSO) for MD Radiology Postgraduate students**

- PSO1** - Demonstrate the ability to diagnose and treat all cases of malignancies using updated guidelines in medical and Radiotherapy with special ability to maintain interdisciplinary coordination. (C, A, P)
- PSO2** - Demonstrate the ability to address all emotional issues in patients and family members in relation to diagnosis, therapy, terminal care and mortality related to malignancies. (C, A, P).
- PSO3** - Organise proper promotive and preventive care strategies in the community aimed at reducing the burden of care in malignancies (C, A, P).
- PSO4** - Lead and participate in planning and execution of team work related to establishment and maintenance of infrastructure related to radiation therapy, conforming to the updated guidelines. (C, A, P)
- PSO5** - Plan and conduct research related to the topic (C)
- PSO6** - Demonstrate the ability to organise teaching / training sessions for students and health workers in topics related to cancer prevention and care. (P)

**Note:** A- Affective Domain, C- Cognitive Domain & P- Psychomotor Domain: Course-PO-PSO Mapping



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Course-PO-PSO Mapping

Course and name	Code	Program Outcomes				Program Specific Outcomes					
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
MDC545A Basic Sciences related to Radiology		2	1		2	1		2	3	1	3
MDC546A Systemic Radiology-1		3	3	2	3	3	3	3			2
MDC547A Systemic Radiology -2			3	2		3	3	3			
MDC548A Recent advances & nuclear medicine		2	2	3	2	1		3	2	2	3
MDP512A Thesis- Radiology				3						3	



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**10. Regulations: (A) Attendance, Progress and Conduct**

1. A candidate pursuing degree course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run or work in clinic/laboratory/nursing home while studying postgraduate course. No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study.
2. Each term shall be taken as a unit for the purpose of calculating attendance. Attendance of 80% every term is mandatory for appearing in the final university examination.
3. Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.
4. Every candidate is required to attend a minimum of 80% of the training during each academic term of the post graduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every term.
5. Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University Examinations.

**(B) Monitoring of progress of Studies**

1. Work diary / Log Book - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. as per the model checklists and logbook specimen copy.
2. Special mention may be made of the presentations by the candidate as well as details of clinical or planning procedures, if any conducted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.
3. Procedure for defaulters: There will be a committee constituted by all teachers to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default, the departmental committee may recommend that defaulting candidate will be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

**12. Teaching Learning Methods:**

This being a highly dedicated PG specialty introducing several new concepts/subjects in the course, it is recommended to divide the entire course into two components consisting of First Year of BASIC CONCEPTS OF THE SPECIALTY and the next two years of INTENSIVE CLINICAL TRAINING IN THE SPECIALTY.

Didactic lectures are of least importance; seminars, journal clubs, symposia, reviews, and guest lectures should get priority for acquiring theoretical knowledge. Bedside teaching, interactive group discussions and clinical demonstrations should be the hallmark of clinical/practical learning. Students should have hands-on training in performing various procedures and ability to interpret results of various tests/investigations.

Exposure to newer specialized diagnostic/therapeutic procedures should be given.



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Importance should be attached to ward rounds especially in conjunction with emergency admissions. Supervision of work in outpatient department should cover the whole range of work in the unit. It is particularly necessary to attend sub-specialty and symptom specific clinics. The development of independent skills is an important facet of postgraduate training. Joint meetings with physician colleagues e.g. oncologists, surgeons and pathologists play a valuable part in training.

The training techniques and approach should be based on principles of adult learning. It should provide opportunities initially for practicing skills in controlled or simulated situations. Repetitions would be necessary to become competent or proficient in a particular skill. The more realistic the learning situation, the more effective will be the learning.

Clinical training should include measures for assessing competence in skills being taught and providing feedback on progress towards a satisfactory standard of performance. Time must be available for academic work and audit. The following is a rough guideline to various teaching/learning activities that may be employed:

1. Intradepartmental and interdepartmental conferences related to case discussions.
2. Attendance at sub-specialty and state-level radiology meets.
4. External rotation postings in departments like Medical and Surgical Oncology, Neurology, OBGYN
5. Skills training
6. Conferences, Seminars, Continuing Medical Education (CME) Programme.
7. Journal Club
8. Research Presentation and review of research work.
9. A postgraduate student of a postgraduate degree course in broad specialties would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
10. Participation in workshops, conferences and presentation of papers etc.
11. Maintenance of records. Log books should be maintained to record the work done which shall be checked and assessed periodically by the faculty members imparting the training.
12. Postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
13. Department should encourage e-learning activities.
14. Innovative teaching learning practices- book clubs, debates and quizzes are conducted
1. Theme based teaching learning activities.
2. Focused discussion during journal club inculcates culture in the areas of research and publication.



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4. Weekly film reading sessions facilitated by faculty: Helps in reading CT, MRI films that have been done previously, thus enabling the students to gather knowledge about a wide variety of old cases. These classes are conducted in a mock exam format, helping them to gain confidence while reinforcing learning and teaching from experience.

#### 14. Assessment:

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring will be done by the staff of the department based on participation of students in various teaching/learning activities.

1. Formative assessment during 4th week of every month to include methods like pedagogy, chart analysis, histopathology report analysis, Viva, standardized patients, MCQs, Open book exams, OSCE will be done. Impact: SWOT analysis can be done and timely counseling can be done.
2. Theory paper covering, physics and cross-sectional anatomy at the end of 1st year.  
  
FA at the end of second year will be on mainly on GIT, GUT, Neuroradiology, Chest medicine and OBGYN.  
  
Mock SA will be conducted in the same pattern as university exams one month before the final exams.
3. Teaching skills: Candidates are encouraged to teach undergraduate medical students and radiography students, if any. In addition, the second year student acts as a mentor for the immediate junior in all aspects of the course.
4. Pedagogy as a tool in formative assessment helps the student to be a better teacher.



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Scheme of Examination:**A. Theory (Written Paper) 400 marks**

There shall be four question papers, each of three hours' duration. Each paper shall consist of 10 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows.

Name of the course	Course Code	Topics	Marks
Basic sciences related to radiology	MDC545A	Basic sciences related to cross-sectional anatomy, radiation physics, imaging techniques and film processing	100
Systemic Radiology - 1	MDC546A	CVS, chest, CNS, head & neck, ENT, MSK, pediatric radiology and breast imaging	100
Systemic Radiology - 2	MDC547A	GIT, GUT, Hepato-biliary, OBGYN, endocrine and metabolic disorders and interventional radiology.	100
Recent advances & nuclear medicine	MDC548A	Recent Developments in nuclear medicine, radiology related to clinical specialties	100
Thesis- Radiology	MDP512A	Approval six months before the examinations	

**B. Clinical:200marks**

One long case of 80 and three short cases of 40 each.

**C. VivaVoice: 100 marks****1) Viva-Voce Examination:(80Marks)**

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition, candidates may be also be given case reports, charts, gross specimens, pathology slide, Instruments, X-rays, ultrasound, CT scan images for interpretation. It includes discussion on dissertation also.

**2) Pedagogy Exercise:(20Marks)**

A topic be given to each candidate in the beginning of clinical examination.He/she is asked to make a presentation on the topic for 8-10 minutes

**D. Total Marks Distribution:**

Maximum marks for M.D degree course	Theory	Practical	Viva	Grand Total
	400	200	100	700



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## Annexures

Annexure 1\_Overall course plan year-wise

Annexure 2\_Sample of monthly schedules

Annexure 3\_PG outside posting policy

Annexure 4\_Logbook entry

Annexure 5\_Students appraisal form

  
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\*Annexure 1 – overall course plan year-wise

During the three-year course, suggested rotations are as follows:-

1. Conventional chest, abdomen, musculoskeletal including PNS and mammography etc 8 months skull, spine,
2. Contrast studies: G.U., GIT, Hepato-biliary, 8 months angiography etc including fluoroscopic guided
- Interventions
3. US, Doppler and US guided interventions 8 Months
4. CT and CT guided interventions 6 Months
5. Emergency radiology 2 Months
6. M.R.I. 2 Month
7. Elective posting 2 Months

During each posting, post graduate student should be able to perform the procedures and interpret the findings.



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Annexure 2 Sample of monthly schedules

## PROPOSED SCHEDULE FOR ROTATION

1ST Year (1/6)	Conventional Chest & abdomen	Conventional skull, spine, musculo- skeletal etc.	US	Contrast studies - GIT & other fluoroscopic investigations	Contrast studies - G.U. tract	US
	(2/6) US & interventions	Conventional skull, spine, musculo- skeletal etc.	CT	Contrast studies -- GIT & other fluoroscopic investigations	Contrast studies - G.U. tract	US & interve- ntions
2nd Year (3/6)	Conventional Chest & abdomen	Contrast studies - GIT & other fluoroscopic investigations including angiography	Contrast studies - G.U. tract	US & interventions	Emergency	CT
	(4/6) Conventional skull, spine, musculo- skeletal etc.	Contrast studies - G.U. tract including pediatric MCU/genito- gram	US & interventions	US & Doppler	Emergency	MRI
3rd year (5/6)	Conventional Chest & mammo- graphy	Contrast studies - GIT & other fluoroscopic investigations including angiography	US & Doppler	Emergency	CT & inter- ventions	Elective
	(6/6) Conventional musculo- skeletal & mammo- graphy	Contrast studies - G.U. tract including pediatric MCU/genito- gram	CT& inter- ventions	CT & inter- ventions	MRI	Elective



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Annexure 3 PG outside posting policy

Elective posting 2 Months – at NIMHANS and HCG/ KIDWAI  
Compulsory DRP posting as per NMC regulations



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Annexure 4Logbook entry

Date	
Setting/method	
Presented/attended	
Summary in brief	
Reflection	
Teachers comments	

Student's signature

Guide's Signature



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## ANNEXURE-5

Postgraduate Students Appraisal Form Name of the PG Student Period of Training  
Duration:.....to.....

Sl. No	Particulars	Not satisfactory (1,2,3)	Satisfactory (4,5,6)	More than Satisfactory (7,8,9,10)	Remarks
1	Journal based learning				
2	Clinical seminars				
3.	Communication skills / history taking				
4.	Log book				
5.	Thesis work				
6.	CME/Outreach programmes/Conference presentations				
7.	Self-directed learning				
8.	Under-graduate teaching				
9.	Research/Publication				

Sign of the student

Sign of the assessor Sign of Head of the Department



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## Course Specifications MD Radio diagnosis

2022 onwards

Course Code: MDC545A

  
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Course Specifications

Course Title	Basic Sciences Related to Radiology
Course Code	MDC545A
Department	Radio diagnosis
Faculty	Ramaiah Medical College

Course summary:

This course is designed in such a way that the student will master the basics of conventional and modern radiology including imaging techniques and interventional procedures so that the post graduate becomes well versed and competent to practice, teach and conduct research in the field of radiology.

Course Outcomes:

**CO 1:** Demonstrate comprehensive knowledge of applied anatomy, classification, investigations and staging of various diseases. (C)

**CO 2:** Demonstrate the understanding of various concepts of physics and its applications. (C)

**CO 3:** Demonstrate the understanding of radiobiological concepts behind the causation of radiation damage to tissues. (C)

Course Content:

Related to cross- sectional anatomy, radiation physics, imaging techniques, radiation protocols and film processing.



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcomes	Program Outcomes				Program Specific Outcomes					
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
MDC545A Basic Sciences Related to Radiology	CO 1	3			3				3		3
	CO 2	2			3			1	3		3
	CO 3				3					2	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											



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# Course Specifications MD Radio diagnosis

2022 onwards

Course Code: MDC546A



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Course Specifications

Course Title	Systemic Radiology -1
Course Code	MDC546A
Department	Radiology
Faculty	Ramaiah Medical College

Course Summary:

This course is designed in such a way that the student will master the evidence based diagnosis of various health conditions , independently conduct and interpret all routine and special radiological procedures and imaging investigations.

Course Outcomes:

**CO 1:** Demonstrate the application of imaging modalities in the diagnosis of surgical/systemic diseases thereby enabling the desired treatment

**CO 2:** Demonstrate good comprehensive knowledge of sub specialities such as chest, neuro, GIT, urology, CVS ,MSK and women's imaging (C,A,P)

Course Content: CVS, chest, CNS, head & neck, ENT, MSK, paediatric radiology and breast imaging



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcomes	Program Outcomes				Program Specific Outcomes					
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
MDC546A Systemic Radiology -1	CO1	3	3		3	1	1			2	2
	CO 2	3	3		3	1	1			2	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											



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# Course Specifications MD Radio diagnosis

2022 onwards

Course Code: MDC547A



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Course Specifications

Course Title	Systemic Radiology -2
Course Code	MDC547A
Department	Radio diagnosis
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master multidisciplinary management of cancer in addition to palliative care.

Course Outcomes:

**CO 1:** Independently conduct and interpret all routine and special radiological and imaging investigations. (A,C,P)

**CO 2:** Decide on various image-guided interventional procedures to be done for diagnostic and therapeutic management.

**CO 3 :** Apply legal aspects with respect to performing procedures while adhering to radiation guidelines and protocols (A,C,P)

**Course Content:** GIT, GUT, Hepato-biliary, OBGYN, endocrine and metabolic disorders and interventional radiology.



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcomes	Program Outcomes				Program Specific Outcomes					
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
MDC547A Systemic Radiology -2	CO 1	2	3			3	3				
	CO 2		3	1			3	3			3
	CO 3	3	3		3		3				
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											



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## Course Specifications MD Radio diagnosis

2022 onwards

Course Code: MDC548A



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Course Specifications

Course Title	Recent advances, & nuclear medicine
Course Code	MDC548A
Department	Radio diagnosis
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master recent developments in imaging methods, protocols and newer studies.

Course Outcomes:

**CO 1:** Apply newer advances of imaging in the comprehensive diagnosis of diseases.(C)

**CO 2:** Demonstrate comprehensive knowledge of new techniques, its application in creating awareness, and using it as a screening for early diagnosis. (C,A,P)

**CO 3:** Able to formulate basic research protocols and carry out research in the field of radiology-related clinical problems (A,C)

**Course Content:** Recent Developments in nuclear medicine, radiology related to clinical specialties.



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcomes	Program Outcomes				Program Specific Outcomes					
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
MDC548A Recent advances & nuclear medicine.	CO 1	3	1		3	2					2
	CO 2				3		3	3		1	3
	CO 3		2	2	3	2	3		1		
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											



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## Course Specifications MD Radio diagnosis

2022 onwards

Course Code: MDP512A

  
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Course Specifications

Course Title	Thesis- Radiology
Course Code	MDP512A
Department	Radio diagnosis
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master the science of research in terms of designing, conducting and interpreting the results.

Course Outcome:

Describe the techniques of research, identify available literature and critically analyze the same.  
(C)

Course details:

Every candidate pursuing MD radiology degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation. The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

Every candidate shall submit to the Registrar (Academic) of the University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

The dissertation should be written under the following headings:

1. Introduction
2. Aims or Objectives of study
3. Review of Literature
4. Material and Methods
5. Results
6. Discussion
7. Conclusion
8. Summary
9. References (Vancouver style)
10. Tables
11. Annexures

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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcomes	Program Outcomes				Program Specific Outcomes					
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
MDP512A Thesis- Radiology	513.1		1	3						3	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											

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**Course Materials:****Books**

1. Grainger & Allison's Text book of Diagnostic Radiology (Churchill Livingstone)
2. Textbook of Gastrointestinal Radiology- Gore and Levine (Saunders)
3. MRI of Brain and Spine - Scott Atlas (LWW)
4. Diagnosis of Diseases of the Chest - Fraser
5. Diagnostic Imaging Series: (Amirsys, Elsevier)  
Abdominal Imaging, Orthopedics, Head and Neck, Neuroradiology, Pediatric Radiology Chest, Obstetrics, Breast
6. MRI in Orthopedics and Sport Injuries - Stoller
7. Skeletal Radiology - Greenspan
8. Abdominal-Pelvic MRI - Semelka (IWW)
9. Caffey's Pediatric Radiology
10. CT and MRI of the whole body- John R. Haaga
11. Textbook of Radiology and imaging – David Sutton
12. Diagnostic ultrasound - Carol C. Rumack
13. AIIMS-MAMC-PGI's Comprehensive Textbook of Diagnostic Radiology, Volumes 1, 2, 3

**Journals:** 03-05 International Journals and 02 National (all indexed)

journals

1. American Journal of Roentgenology
2. Radiology
3. Seminars in Ultrasound, CT,
4. MRI 4. Radiographics
5. Clinical Radiology
6. British Journal of Radiology
7. Radiological Clinics of North
8. America 8. Pediatric Radiology
9. Australasian Radiology
10. Journal of Computerized Axial
11. Tomography 11. Clinical Imaging
12. MR Clinics of North America
13. Seminars in Roentgenology

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