



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

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

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

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**Ramaiah Medical College**

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

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*Shalini*

**Principal and Dean**

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



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

**Programme Specifications**

**MD Paediatrics Programme 2022 onwards**

**Programme Code: MD137**

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

**Ramaiah Medical College**



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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 programmes.

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Programme Specifications: MD Paediatrics

Faculty	Ramaiah Medical College
Department	Paediatrics
Programme	MD – Paediatrics
Programme Code	MD137
Dean of Faculty	Dr Shalini C Nooyi
Head of the Department	Dr Somashekhar AR

1. Title of the Award: MD Paediatrics
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: Ramaiah Medical College
6. Date of Programme Specifications: September 2022
7. Programme Approval by the Academic Council of MSRUAS: NMC Regulations No.ACA/DCD/CBME-PG- Clinical/410/2020-21, DE 24/11/2020
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 of child healthcare and advance in its management through research & training. Paediatrics is a highly specialized discipline in clinical medicine comprising of comprehensive child health care management with sub speciality support. Programme has been planned 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 child health.



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

- PO1.** Develop the knowledge, skills and attitude to be a competent Paediatrician (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 manage emergency paediatric and neonatal care with a reasonable degree of professionalism and competence. (P)

**Programme specific outcome (PSO) for MD Paediatrics Postgraduate students**

- PSO1** -Demonstrate the ability to diagnose and treat all cases of child health including neonates using updated guidelines in medicine, with special ability to maintain interdisciplinary coordination. (C, A, P)
- PSO2** - Demonstrate appropriate proficiency in basic clinical skills appropriate for child health, ie. History, Physical Examination and Assessments of Growth/Development & Behavior, in arriving at the most likely clinical differential; in identifying precipitating or predisposing factors; prioritizing high risk versus low-risk conditions; and, those in need of emergency versus routine care. (C, A, P).
- PSO3** - Organise proper promotive and preventive care strategies in the community aimed at disease prevention, health promotion and clinical care of all children. (C, A, P).
- PSO4**-Demonstrate all aspects of effective and empathetic communication during most encounters with children and parents/guardians (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 child health 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 Code and name	Program Outcomes				Program Specific Outcomes					
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
MDC541A Basic Sciences as related to Paediatrics	2	2		2	1		2	1	1	1
MDC542A General Paediatrics	3	3	2	3	3	3	3	2	1	2
MDC543A Systemic Paediatrics	3	3	2		3	3	3			
MDC544A Recent Advances	2	2	3	2	1	3	3	2	2	3
MDP511A Thesis Paediatrics			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 year 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**

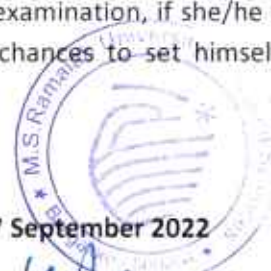
1. Work diary / Log Book - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. as per the model checklists and logbook specimen copy.
2. Special mention may be made of the presentations 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 counselled 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.
4. Each student has 3 months DRP posting as per NMC.

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**11. 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, grand rounds, 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. 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. radiologists 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. Ward rounds along with emergency admissions.
3. Attendance at sub-specialty clinics and rounds.
4. External rotation postings in departments like Radiology / Neurology / Dermatology /cardiology/
5. Skills training
6. Conferences, Seminars, Continuing Medical Education (CME) Programmes.
7. Journal Club

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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.

#### 12. Innovative teaching learning practices

1. Theme based teaching learning activities eg..neonatology for a full month.
2. Focused discussion during journal club inculcates culture in the areas of research and publication
4. FacultyLecture during 4th week: Helps in bridging the gap between what is presented during the month and what is not about particular topic. Also it reinforces learning

#### 13. 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, Viva, standardized patients, MCQs, Open book exams, OSCE will be done. Impact: SWOT analysis can be done and timely counselling can be done.
2. Theory paper covering basic sciences, growth, nutrition and development at the end of 1st year. FA at the end of second year will be on common systemic pediatrics and neonatology. Mock SA will be conducted in the same pattern as university exams one month before the final exams.

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3. Teaching skills: Candidates are encouraged to teach undergraduate medical students and paramedical 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.

**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 as related to Paediatrics	MDC541A	Allergies, bronchial asthma , primary immune deficiencies, genetics , inherited metabolic disorders	100
General Paediatrics	MDC542A	nutrition, growth and development , micro- macro nutrient deficiency,	100
Systemic Paediatrics	MDC543A	Systemic paediatrics such as haematology , gastroenterology , haematology , cardiology , neurology , pulmonology	100
Recent Advances	MDC544A	Recent Developments in paediatrics , national Programmes,	100
Thesis – Paediatrics	MDP511A	Approval 6 months before final examination	

**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, nutrition, drugs & vaccine, Instruments, X-rays, ultrasound, CT scan images for interpretation. It includes discussion on dissertation also.

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**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

- 1<sup>st</sup> year- 8 months General Paediatrics Rotation which includes Out patient & In patient.  
2 months, Paediatric Intensive care  
2 months Neonatal Intensive Care
- 2<sup>nd</sup> year- 2 months Speciality Rotation.  
4 months, Paediatric Intensive care  
4 months Neonatal Intensive Care  
2 months Rural posting
- 3<sup>rd</sup> year- 8 months General Paediatrics Rotation which includes Out patient & In patient & thesis  
2 months, Paediatric Intensive care  
2 months Neonatal Intensive Care

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**Annexure 2 Sample of monthly schedules**

PG TEACHING JUNE 2022 TIME:2-3 PM

DATE	TOPIC	PRESENTER	MODERATOR
01-06-2022	Common Case Presentation	Dr.Bharathi Dr. Veena	
02-06-2022	Bedside case	Dr. Varsha Dr. Ahish	Dr.Sunil
06-06-2022	Journal club	Dr. Girish Dr. Subodh	Dr. Chandrika
07-06-2022	Seminar - ADHD and autism	Dr. Vishal Dr. Charitha	Dr.Prarthana
08-06-2022	Common Case Presentation	Dr. Bhargava Dr.Swetha	
09-06-2022	PICU audit	PICU team	
13-06-2022	Journal club	Dr.Bharath Dr.Ravi	Dr.Shruthi Patil
14-06-2022	Seminar - Nutrition in special situations -IEM, Chronic illness, Surgery and critically ill child	Dr. Shobhitha Dr. Apoorva	Dr.Akshatha
15-06-2022	Common Case Presentation	Dr.Sagar Dr.Mansoor	
16-06-2022	PNM meet	Neonatal team	
20-06-2022	Journal club	Dr.Harshitha Dr. Nidhi	Dr.Krithika
21-06-2022	Seminar - Congenital and Paediatric TB	Dr.Taha Dr.Chaitanya	Dr.Karunakara
22-06-2022	Common Case Presentation	Dr. Tanmayee Dr. Deepti	
23-06-2022	Assessment		Dr.Ritesh
27-06-2022	Journal club	Dr. Spandana Dr. Divya	Dr.Pooja
28-06-2022	Seminar Immunization - Principles, Schedules, Catchup and Common A/E	Dr.Harika Dr.Priya	Dr.Shruthi.R
29-06-2022	Common Case Presentation	Dr. Vishwa Dr.Madhumita	
30-06-2022	Interesting case	Dr.Swathi Dr.Prithvi	

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Annexure 3 PG outside posting policy

All postgraduates during the second year will be posted for 2 months in any of the following allied specialties.

1. Cardiology,
2. Neurology,
3. Nephrology
4. Haematoncology
5. Dermatology
6. Radiology
7. Pediatric Surgery
8. Physical Medicine and Rehabilitation Community
9. DRP posting 3 months as per NMC

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Annexure 4 Logbook entryLogbook entry

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

Student's signature  
Signature

Guide's



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First Year

From.....to.....

S. No	DATE		Total Duration	Area of Posting	Overall Performance** (B/M/E)	Unit Incharge's Signature
	From	To				

Second Year

From.....to.....

S. No	DATE		Total Duration	Area of Posting	Overall Performance** (B/M/E)	Unit Incharge's Signature
	From	To				

Third Year

From.....to.....

S. No	DATE		Total Duration	Area of Posting	Overall Performance** (B/M/E)	Unit Incharge's Signature
	From	To				

\*: Including Rural Postings, Elective Postings &amp; Posting in other Departments, if any.

\*\*Grading: B- Below Expectations, M- Meets Expectations, E- Exceeds Expectations

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Annexure 5 Students appraisal form

Name of the Department/Unit :

Name of the PG Student :

Period of Training

: FROM.....TO.....

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1.	Journal based / recent advances learning				
2.	Patient based /Laboratory or Skill based learning				
3.	Self directed learning and teaching				
4.	Departmental and interdepartmental learning activity				
5.	External and Outreach Activities / CMEs				
6.	Thesis / Research work				
7.	Log Book Maintenance				

Publications

Yes/ No

Remarks\*

\*REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE SIGNATURE OF CONSULTANT SIGNATURE OF HOD

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## Course Specifications

**MD Paediatrics 2022 onwards**

**Course code: MDC541A**

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Course Specifications

Course Title	Basic Sciences as related to Paediatrics
Course Code	MDC541A
Department	Paediatrics
Faculty	Ramaiah Medical College

Course summary:

This course is designed in such a way that the student will master the basics of embryology, applied sciences including immunology, pathophysiology of various diseases.

Course Outcomes:

CO 1: Demonstrate comprehensive knowledge of applied science including anatomy, physiology, biochemistry, pathology, pharmacology and microbiology as applied to paediatrics. (C)

CO 2: Demonstrate the understanding of various concepts of pharmacokinetics of common medications, immunology and their application. (C)

CO3: demonstrate integrity, accountability, respect, compassion and dedicated patient care, commitment to excellence, continuous professional development and ethical principles relating to research conduct and publication as applicable to all the specific courses. (A)

**Course Content:** Basic Sciences as related to paediatric, including clinical history and examination, rationale of investigations, communication skills with patient and families, statistics and medical ethics.

- Principles of inheritance, chromosomal disorders, single gene disorders, multifactorial / polygenic disorders, genetic diagnosis and prenatal diagnosis, pedigree drawing.
- Embryogenesis of different organ systems especially heart, genitourinary system, gastro-intestinal tract.
- Applied anatomy and functions of different organ systems.
- Physiology of micturition and defecation, placental physiology, fetal and neonatal circulation. Regulation of temperature, blood pressure, acid base balance, fluid electrolyte balance and Pharmacokinetics of common drugs, microbial agents and their epidemiology.
- Basic immunology, biostatistics, clinical epidemiology, ethical and medico-legal issues
- Vitamins and their functions.
- Hematopoiesis, hemostasis, bilirubin metabolism.
- Growth and development at different ages, growth charts; puberty and its regulation.
- Nutrition: requirements and sources of various nutrients.
- Micro nutrients.
- Teaching methodology and managerial skills.



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcomes	Program Outcomes				Program Specific Outcomes					
		PO 1	PO 2	PO 3	PO 4	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
MDC541A Basic Sciences as related to Paediatrics	CO1	3			3		3				3
	CO 2	2			3			2			
	CO 3		3						2		3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											

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## Course Specifications

### MD Paediatrics 2022 onwards


Course code: MDC542A

  
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Course Specifications

Course Title	General Paediatrics
Course Code	MDC542A
Department	Paediatrics
Faculty	Ramaiah Medical College

Course Summary:

This course is designed in such a way that the student will master the basics of child health care including nutrition, growth & development, communicable and non-communicable infections.

Course Outcomes:

**CO 1.** Demonstrate the growth at different ages using growth charts, complete development assessment by history and physical examination, and be able to recognize developmental disabilities. (C, A, P)

**CO 2:** Should be able to know the various infections, their management and their complications. (C, A, P)

**CO 3:** Demonstrate proficiency in eliciting, processing and systemically presenting Paediatrics history and examination with due emphasis of the important and minimization of less important facts. (C, A, P)

Course Content: General Paediatrics MDC542A

Growth and development

Neonatology

Nutrition

Fluid and electrolytes

Human Genetics

Inherited metabolic disorders

Adolescent medicine

Infectious diseases

Immunology and Rheumatology

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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
MDC542A General Paediatrics	CO1	3	3		3	3	3	2		1	1
	CO 2	3			3	3	3	2			
	CO 3	3	3		3	2	3	2			
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											



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## Course Specifications

### MD Paediatrics 2022 onwards

Course code: MDC543A



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**Course Specifications**

<b>Course Title</b>	<b>Systemic Paediatrics</b>
<b>Course Code</b>	<b>MDC543A</b>
<b>Department</b>	<b>Paediatrics</b>
<b>Faculty</b>	<b>Ramaiah Medical College</b>

**Course Summary:**

The course is designed in such a way that the student will master multidisciplinary management of systemic paediatrics.

**Course Outcomes:**

**CO 1:** Demonstrate the application of principles of systemic paediatrics including their clinical manifestation, investigation treatment and also counselling. (A, C, P)

**CO 2:** Demonstrate comprehensive knowledge of different methods of teaching-learning and assessments and also presenting seminars, journal clubs and clinicopathological conferences. (A, C, P)

**Course Content:** Systemic Paediatrics MDC543A

Cardiovascular

Respiratory

Gastrointestinal and liver disease

Nephrologic and Urologic disorders

ENT

Skin Diseases

Eye problems

Neurologic disorders

Hematology and Oncology

Endocrinology

Gynaecological problems in childhood

Bone and joint disorders in childhood



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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
MDC543A Systemic Paediatrics	CO1	3	3		3	2	2			1	1
	CO 2	3	3	3	3	1	1			2	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											

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## Course Specifications

### MD Paediatrics 2022 onwards

Course code: MDC544A



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Course Specifications

Course Title	Recent Advances
Course Code	MDC544A
Department	Paediatrics
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master recent developments in child health, research in child health and community national health control programmes.

Course Outcomes:

**CO 1:** Apply newer advances in the comprehensive management in child health. (C)

**CO 2:** Demonstrate comprehensive skills in management of paediatric and neonatal emergencies. (C, A, P)

**CO 3:** Apply legal aspects with child health. (A, C)

**CO4:** should be conversant with newer advances in medicine including recent trials, discoveries, newer methods of imaging technologies and artificial intelligence. (C)

Course Content:

- Social/Community Paediatrics
- Emergency and Critical Care
- Recent advances: -The importance and scope of different radiological examinations in the diagnosis, treatment, and management of various diseases.
- Newer imaging modalities: Different imaging modalities including the newer imaging techniques - ultrasonography, colour doppler imaging, color flow mapping, Computed Tomography, MRI, Nuclear imaging, PET and SPECT- basic principles.
- Protocols to be followed while referring for various routine investigations Barium studies, Ultrasonography, Computed tomography, MRI imaging, nuclear medicine investigations. Various contrast investigations and contrast materials used in imaging techniques and adverse reactions.
- Interpretation of plain, contrast X-rays, Ultrasonography, CT, MRI. The students should gain the knowledge regarding all the newer advances happening in the field of Medicine. Newer drugs, technologies, treatment modalities, guidelines, awards, national and international programmes.



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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
MDC544A Recent Advances	CO 1	3	1	2	3	2		3			2
	CO 2				3		3	3	2	1	1
	CO 3		3	2	2	1	3		2	2	
	CO4	2			3	1	2			2	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											



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## Course Specifications

### MD Paediatrics 2022 onwards

Course code: MDP511A



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Course Specifications

Course Title	Thesis- Paediatrics
Course Code	MDP511A
Department	Paediatrics
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 analyse the same.  
(C)

Course details:

Every candidate pursuing MD Medicine 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
MDP511A Thesis- Paediatrics	CO 1		1	3						3	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											



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

Books (latest edition)

1. Nelson Textbook of Pediatrics, Ed: Kliegman RM, St. Geme J. Elsevier.
2. PG Textbook of Pediatrics, Ed: Gupta P, Menon PSN, Ramji S, Lodha R. Jaypee
3. Rudolph's Pediatrics, Ed: Kline MW, McGraw Hill.
4. Textbook of Clinical Neonatology (IAP/NNF), Ed: Pejavar RK, Thakre R. Paras.
5. Cloherty and Stark's Manual of Neonatal Care. Ed: Eichenwald EC, Hansen AR, Martin CR, Stark AR. Wolters Kluwer.
6. Principles of Pediatric & Neonatal Emergencies (IAP). Ed: Gupta P, Bagga A, Ramji S, Chugh K, Lodha R, Dewan P, Kaushik JS, Shah D. Shah. Jaypee.
7. Clinical Methods in Pediatrics. Gupta P. CBS Publisher.
8. The Harriet Lane Handbook. Hughes HK, Kahl LK, Elsevier.
9. Nutrition and Child Development. Elizabeth KE. Paras Medical Publisher.
10. Illingworth's Development of The Infant and The Young Child. Au: Illingworth RS; Elsevier Health.
11. Fenichel's Clinical Pediatric Neurology. Au: Piña-Garza JE, James KC. Elsevier.
12. Park's Pediatric Cardiology for Practitioners. Myung Park M, Salamat M. Elsevier.
13. Lanzkowsky's Manual of Pediatric Hematology and Oncology. Fish J, Lipton J, Lanzkowsky P. Elsevier.
14. Essential Paediatric Pulmonology. Lodha R, Kabra SK. Jaypee.
15. Textbook of Pediatric Rheumatology. Petty RE, Laxer R, Lindsley C, Wedderburn L, Fuhlbrigge RC, Mellins ED. Elsevier.

**Journals****National**

1. The Indian Journal Of Pediatrics
2. Indian Pediatrics
3. Indian Journal Of Practical Pediatrics

**International**

1. Archives Of Diseases In Childhood
2. Journal Pediatric Urology
3. Seminars In Pediatric Surgery
4. European Journal Of Pediatric Surgery
5. American Journal of Pediatrics
6. Archives of Pediatric Infectious Diseases
7. Global Pediatric Health
8. International Journal of Pediatrics
9. Journal of Pediatric Care

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10. Neonatal and Pediatric Medicine
11. Pediatric Infectious Diseases
12. Pediatrics & Neonatology
13. World Journal of Clinical Pediatrics

**Online Resources**

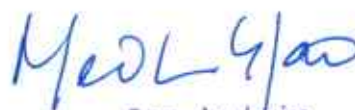
- a. IAP <https://www.iapindia.org/https://diapindia.org/>
- b. GOI MOHFW and IIPS. <http://rchiips.org/nfhs/>
- c. Pubmed. <https://pubmed.ncbi.nlm.nih.gov/>
- d. Google Scholar. <https://scholar.google.co.in/>
- e. Cochrane. <https://www.cochranelibrary.com/>
- f. Uptodate. <https://www.uptodate.com/login>
- g. Clinical Key. <https://www.clinicalkey.com/#!/login>
- h. Medscape. <https://www.medscape.com/>
- i. JM Rey's IACAPAP e-Textbook of Child and Adolescent Mental Health. Rey JM, Martin A. International Association for Child and Adolescent Psychiatry and Allied Professions. ISBN 9780646574400 Free on <https://iacapap.org/english/>

**Additional reading:**

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