



**RAMAIAH
UNIVERSITY**
OF APPLIED SCIENCES

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

M.S. Ramaiah University of Applied Sciences

Registrar

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

Ramaiah Medical College

Principal and Dean

M.S. Ramaiah Medical College and Hospital
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

Dean - Academics

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Bangalore-560054

Approved by the Academic Council meeting held on 27th September 2022
Bangalore-560054



M.S. Ramaiah University of Applied Sciences

Programme Specifications

MD Anaesthesia Programme 2022 onwards

Programme Code: MD136

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 programme

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Programme Specifications: MD Anaesthesia

Faculty	Ramaiah medical College
Department	Anaesthesia
Programme	MD – Anaesthesia
Programme Code	MD136
Dean of Faculty	Dr Shalini C Nooyi
Head of the Department	Dr Geetha C R

1. **Title of the Award:** MD in Anaesthesia
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:** 27th 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 health care and advance the cause of science through research & training. A post graduate specialist having undergone the required training in anesthesiology should be able to recognize the health needs of the community. He or she should be competent to handle effectively medical problems and should be aware of the recent advances pertaining to his/her specialty. She/he should be highly competent anesthesiologist with broad range of skills that will enable him/her to practice anesthesiology independently. The PG student should also acquire the basic skills in teaching of medical/para-medical students. She/he is also expected to know the principles of research methodology and modes of consulting library. She/he should attend conferences, workshops and CMEs regularly to upgrade his/her knowledge.

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Programme objectives (PO) for MD Anaesthesiology Postgraduate students

PO1. Develop the knowledge, skills and attitude to be a competent anaesthesiologist (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 highly competent anaesthesiologist with broad range of skills that will enable him/her to practice anaesthesiology independently (P)

Programme specific outcome (PSO) for MD Anaesthesia Postgraduate students

PSO1 - The student should have fair knowledge of basic sciences (Anatomy, Physiology, Biochemistry, Microbiology, Pathology, Pharmacology, Statistics and Physics) as applied to Anaesthesia (C)

PSO2- He/she should be fully conversant with the bedside procedures (diagnostic and therapeutic) and have knowledge of latest diagnostics and therapeutics procedures available including radiological methods. (C, P)

PSO3 - She/he is also expected to know the principles of research methodology and modes of consulting library. She/he should attend conferences, workshops and CMEs regularly to upgrade his/her knowledge. (C, P)

PSO4- The student should learn the basic methodology of teaching and develop competence in teaching medical/paramedical students. The student should be familiar with the latest teaching (computer and power point presentation) modes including simulators training and evidence based medical education. (C, P)

PSO5- The student should develop attitude that leads to appropriate communication with colleagues to function in a group in Operating Room /Intensive Care Unit, and develop the ability to function as a leader in the operating room. (A)

Note: A- Affective Domain, C- Cognitive Domain & P- Psychomotor Domain:



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Course-PO-PSO Mapping

Course code & name	Program Outcomes				Program Specific Outcomes				
	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5
MDC537A Basic Sciences as applied to Anaesthesiology	2	1	2	1	3	1		1	1
MDC538A Anaesthesia in relation to associated systemic and medical diseases	3	2	2	3	3	3	1	2	2
MDC539A Anaesthesia in relation to subspecialties/super specialties	3	3	2	3	3	3	2	3	3
MDC540A Intensive Care Medicine, Pain Medicine and Recent advances.	3	3	2	2	3	3	2	2	3
MDP510A Thesis- Anaesthesiology			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, 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 fulfil the requirements in spite of being given adequate chances to set himself or herself right.
4. Each student has to complete DRP postings for 3 months as per NMC.

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11. Teaching Learning Methods:

A candidate pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance. Every student shall attend teaching and learning activities) during each year as prescribed by the department and not absent him / her from work without valid reasons.

1) The Medical Education Unit will conduct common induction training for PGs of all specialties focusing on facilities, training, clinical services and research.

2) An induction programme for first year students covering professional and workplace etiquette, communication, dress code and grooming, time balance, responsibilities in the department, Leave protocol emergencies specific to Anaesthesiology and orienting them to department will be done during first month of the course

The teaching programme should include following components:

Case presentations & discussion	Once a week
Seminar	Twice a week
Journal club	Once a week
Additional Teaching & Learning Modalities:	Interesting case presentation Institutional clinical meetings CME lectures Conferences, workshops and updates Use of teaching and learning aids, including audio-visual techniques Simulator-based teaching, training and management of various clinical scenario.
Integrated inter departmental teaching	
At least one poster and/or one paper presentation during the training period in a recognized state /zonal/national conference with medical council credit hours granted. In addition to a thesis dissertation each trainee should have at least one research paper published/ accepted for publication /submitted for publication / at the end of the training period.	
Didactic lectures hold importance in OT areas in anaesthesiology. Intraoperative discussion of pertinent physiologic changes and case management	
Mortality and Morbidity meets	
Problem based learning discussion (PBLD) and clinical demonstrations	
Log books shall be maintained regularly and should be checked and assessed periodically by the faculty members imparting the training	
Emergency drills related to airways in different situations, cardiac arrest, trauma, anaphylaxis, fire safety, etc every month	
Department should encourage e-learning activities	

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13. Innovative teaching learning practices

1. Theme based teaching learning activities at ALC eg; Difficult airway management
2. Focused discussion during journal club inculcates culture in the areas of research and publication
3. Faculty Lecture once a month : Helps in bridging the gap between what is presented during the month and what is not about particular topic. Also it reinforces learning

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.

General Principles

Internal/mock Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and clinical examination. The thesis is assessed separately.

1. Formative assessment in the form of theory exam conducted at 6 months interval.
2. Mock exams conducted in the same pattern as university exams one month before the final exams. Mock case discussion and viva voce in the same pattern as university exams is conducted.
3. For final year postgraduates weekly tests are conducted 6 months prior to university exams. The portion will be divided system wise.
4. Teaching skills: Candidates are encouraged to teach undergraduate medical students and paramedical students.
5. The second year student acts as a mentor for the immediate junior in all aspects of the course.



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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 as applied to Anaesthesiology	MDC537A	Anatomy, Physiology., Pharmacology, Physics, Biochemistry, Patho Physiology, History, Equipments	100
Anaesthesia in relation to associated systemic and medical diseases	MDC538A	Principles of preanaesthesia evaluation, basic anaesthesia procedures, intraoperative management and postoperative care, BLS and ACLS	100
Anaesthesia in relation to subspecialties/super specialties	MDC539A	Principles and anaesthesia management in subspecialties like cardiothoracic, neuro, pediatric, obstetric, transplant anaesthesia.	100
Intensive Care Medicine, Pain Medicine and Recent advances.	MDC540A	Intensive care management, acute and chronic pain management, recent advances in anaesthesia and perioperative care.	100
Thesis - Anaesthesia	MDP510A	Approval 6 months before final examination.	



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B. Clinical:200marks

One long case of 100 and two short cases of 50 each.

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

All examiners will conduct viva-voce conjointly on candidates comprehension, analytical approach expression and interpretation of data. It includes all components of course contents. In addition the candidate may also be given, instruments/equipments, X-ray images, ABG reports, ECG strips, Drugs Ultrasound/Echocardiography reports & specimen. 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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Page 9

Annexures

Annexure 1_ Model Check-List for Evaluation of Journal Review Presentations

Annexure 2_ Model Check-List for Evaluation of Seminar Presentations

Annexure 3_ Evaluation Form for Clinical Presentation

Annexure 4_ Model Check List for Evaluation of Teaching Skill Practice

Annexure 5_ Continuous evaluation of dissertation work by guide / co-guide

Annexure 6 _ Log book entry

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Annexure I**Model Check-List For Evaluation Of Journal Review Presentations**

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Article chosen was					
2	Extent of understanding of scope & objectives of the paper by the candidate					
3	Whether cross references have been consulted					
4	Whether other relevant publications consulted					
5	Ability to respond to questions on the paper / subject					
6	Audio-Visual aids used					
7	Ability to defend the paper					
8	Clarity of presentation					
9	Any other observation					
	Total Score					



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Annexure – II**Model Check-List For Evaluation Of Seminar Presentations**

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Whether other relevant publications consulted					
2	Whether cross references have been consulted					
3	Completeness of Preparation					
4	Clarity of Presentation					
5	Understanding of subject					
6	Ability to answer questions					
7	Time scheduling					
8	Appropriate use of Audio-Visual aids					
9	Overall Performance					
10	Any other observation					
	Total Score					

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Annexure – III**Evaluation Form for Clinical Presentation**

Name of the Student:

Name of the Faculty:

Date:

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1	Completeness of history					
2	Whether all relevant points elicited					
3	Clarity of Presentation					
4	Logical order					
5	Mentioned all positive and negative points of importance					
6	Accuracy of general physical examination					
7	Whether all physical signs elicited correctly					
8	Whether any major signs missed or misinterpreted					
9	Diagnosis: Whether it follows logically from history and findings					
10	Investigations required ▪ Complete list					
	▪ Relevant order					
	▪ Interpretation of investigations					
11	Ability to react to questioning Whether it follows logically from history and findings					
12	Ability to defend diagnosis					
13	Ability to justify differential diagnosis					
14	Others					
	Grand Total					

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Annexure – IV**Model Check List For Evaluation Of Teaching Skill Practice**

Name of the Student:

Name of the Faculty:

Sl. No.		Strong Point	Weak Point
1	Communication of the purpose of the talk		
2	Evokes audience interest in the subject		
3	The introduction		
4	The sequence of ideas		
5	The use of practical examples and/or illustrations		
6	Speaking style (enjoyable, monotonous, etc., specify)		
7	Attempts audience participation		
8	Summary of the main points at the end		
9	Asks questions		
10	Answers questions asked by the audience		
11	Rapport of speaker with his audience		
12	Effectiveness of the talk		
13	Uses AV aids appopriately		

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Annexure – V

Continuous evaluation of dissertation work by guide / co-guide

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1	Periodic consultation with guide/co-guide					
2	Regular collection of case material					
3	Depth of analysis / discussion					
4	Departmental presentation of findings					
5	Quality of final output					
6	Others					
	Total Score					



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Table 2: Academic presentations made by the student

Admission Year:

College:

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Course Specifications

MD Anaesthesia 2022 onwards

Course Code: MDC537A



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Page 18

Course Specifications

Course Title	Basic Sciences as applied to Anaesthesiology
Course Code	MDC537A
Department	Anaesthesiology
Faculty	Ramaiah Medical College

Course summary:

This course is designed in such a way that the student will master the basics of anatomy, physiology, pharmacology, physics in relation to anaesthesia and anaesthesia equipments.

Course Outcomes:

CO 1: Be well versed with anatomy and physiology of respiratory, cardiovascular, neurologic, hepatobiliary, renal, endocrine, pregnancy, haematological, neuromuscular, regulation of temperature and metabolism, stress response, cerebral blood flow and ICP, central, autonomic and peripheral nervous systems, metabolic response to stress and trauma (C)

CO 2: Be well versed with General principles, concepts of pharmacokinetics and pharmacodynamics of various drugs used under anaesthesia and also, drug interactions with the other drugs taken concomitantly by the patient and anaphylactoid reactions. (C)

CO 3: Principles of physics that govern functions of basic anaesthesia delivery equipment, airway devices, fibreoptics, LASERS, Pacemakers and defibrillators, monitoring equipment (C)

CO 4: Have detailed knowledge about functioning and usage of anaesthesia workstation, equipment and instruments (C, P)

Course Content:

- A. Applied Anatomy, Physiology, Pharmacology and physics in relation to Anaesthesia



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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
MDC537A Basic Sciences as applied to Anaesthesiology	CO 1	3	2	2	3	3	2	2	2	2
	CO 2	3	3	2	3	3	2	2	2	2
	CO 3	3	3	2	3	3	2	2	2	2
	CO 4	3	3	2	3	3	3	2	2	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

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Course Specifications

MD Anaesthesia 2022 onwards

Course Code: MDC538A



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Course Specifications

Course Title	Anaesthesia in relation to associated systemic and medical diseases
Course Code	MDC538A
Department	Anaesthesiology
Faculty	Ramaiah Medical College

Course Summary:

This course is designed in such a way that the student will master the preoperative evaluation and anaesthesia management of patients and postoperative follow-up.

Course Outcomes:

CO 1: Be well versed with importance of pre-anaesthetic assessment and optimization of a patient and peri-operative management of patients requiring surgery of different organs / systems esp. airway (croup, angio-oedema, foreign body, etc.), lung, liver, spine, cardiac, brain, orthopaedic, abdominal, etc. (A, C, P)

CO 2: Be well versed with basic life support, advanced cardiac, trauma life support, and neonatal resuscitation according to latest guidelines (C, P)

CO 3: Should be well versed in management of post-operative patients (C, P)

CO 4: Performance of various regional anaesthetic technique including centralneuraxial blocks, peripheral nerve blocks and sympathetic nerve blocks. (C, P)

CO 5: Be well versed with basic and advanced airway management and administration of general anaesthesia (C, P)

Course Content:

Pre anaesthesia assessment and preparation, Anaesthesia management including management of complications, postoperative follow-up

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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
MDC538A Anaesthesia in relation to associated systemic and medical diseases	CO1	3	3	3	3	2	3	1	2	3
	CO2	3	3	3	3	2	3	2	3	3
	CO3	3	3	2	3	2	2	2	2	2
	CO4	3	3	3	3	3	3	2	3	3
	CO5	3	3	3	3	3	3	2	3	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										



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Course Specifications

MD Anaesthesia 2022 onwards

Course Code: MDC539A



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Course Specifications

Course Title	Anaesthesia in relation to subspecialties/super specialties
Course Code	MDC539A
Department	Anaesthesiology
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master anaesthesia management of patients in various subspecialties.

Course Outcomes:

- CO 1:** Demonstrate practice of Cardio vascular and Thoracic Anaesthesia (C, P)
- CO 2:** Demonstrate practice of Neuro Anaesthesia (C, P)
- CO 3:** Demonstrate practice of Onco Anaesthesia (C, P)
- CO 4:** Demonstrate practice of Paediatric Anaesthesia(C, P)
- CO 5:** Demonstrate practice of Transplant anaesthesia(C, P)
- CO 6:** Demonstrate practice of Obstetric Anaesthesia(C, P)
- CO 7:** Demonstrate practice of Anaesthesia outside operating room (C, P)

Course Content: Perioperative management of patients of various sub specialties and postoperative follow up



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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
MDC539A Anaesthesia in relation to subspecialties/super specialties	CO 1	3	3	2	3	2	3	2	2	3
	CO 2	3	3	2	3	2	3	2	2	3
	CO 3	3	3	2	3	2	3	2	2	3
	CO 4	3	3	2	3	2	3	2	2	3
	CO 5	3	3	2	3	2	3	2	2	3
	CO 6	3	3	2	3	2	3	2	2	3
	CO 7	3	3	2	3	2	3	2	2	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										



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Course Specifications

MD Anaesthesia 2022 onwards

Course Code: MDC540A



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Course Specifications

Course Title	Intensive Care Medicine, Pain Medicine and Recent advances.
Course Code	MDC540A
Department	Anaesthesiology
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master management of patients in intensive care unit, management of acute and chronic pain and recent developments in anaesthesiology.

Course Outcomes:

CO 1: Recognizing the critically ill patient who needs intensive care -trauma, burns, all types of shock, sepsis, SIRS and ARDS, infectious diseases (HIV, Hepatitis, COVID-19 and others), poisoning, snake bite envenomation (and others), drug overdose and toxicity and patients with metabolic disturbances. (C,P)

CO 2: Understanding of the operation of mechanical ventilators including different ventilatory modalities non-invasive ventilation, complications and modes of weaning (C,P)

CO 3: Know the multidisciplinary approach to chronic pain management including cancer pain management, treatment based on WHO treatment ladder(A,C)

CO 4: Practice different modalities of chronic pain management - physical therapy, psychotherapy, (including cognitive behavioural approaches), neuro- ablation, neuro-augmentation, spinal opioid, interventional neuro-blockade, non-opioid analgesia (C,P)

Course Content: ICU management, evaluation and management of acute and chronic pain, recent advances in Anaesthesia



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M.S. Ramaiah University of Applied Sciences
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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
MDC540A Intensive Care Medicine, Pain Medicine and Recent advances.	CO 1	3	3		3	2	3	2	2	3
	CO 2	3	2		3	3	2	2	2	2
	CO 3	2	3		2	2	2	2	2	2
	CO 4	2	2		2	2	2	2	2	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

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Principal and Dean

MSRUAS Approved by the Academic Council at its 27th meeting held on 27 September 2022

M.S. Ramaiah University of Applied Sciences

Bangalore-560054



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Course Specifications

MD Anaesthesia 2022 onwards

Course Code: MDP510A



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Dean - Academics

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Principal

M.S. Ramaiah Medical College and Hospital
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

Approved by the Academic Council at its 27th meeting held on 27 September 2022

Page 30

Course Specifications

Course Title	Thesis- Anaesthesia
Course Code	MDP510A
Department	Anaesthesiology
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:

CO 1: Should be introduced to basic research methodology so that he/she can independently conduct fundamental and applied research and he/she should independently write the thesis in accordance with the prescribed instructions as expected of international standards

CO 2: The student should demonstrate integrity, accountability, respect, compassion and dedicated patient care and a commitment to excellence, continuous professional development and ethical principles relating to research conduct and research publication as applicable to all the specific courses

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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Registrar

Dean - Academics

M.S. Ramaiah University of Applied Sciences
Bangalore-560054

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
MDP510A Thesis- Anaesthesiology	CO 1			3				3		
	CO 2			3				3		
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										



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Course Materials:**Books** (latest edition)

1. Lee's Synopsis of Anaesthesia
2. Clinical Anesthesiology by Morgan
3. Cardiac Anaesthesia By Joel Kaplan
4. Clinical Anaesthesia by Barash, Cullen and Stoelting
5. Textbook of Anaesthesia by Aitkenhead Rowbotham and Smith
6. Anaesthesia for neonates and infants by Smith
7. Pharmacology and Physiology for Anaesthetists by Stoelting
8. Principles of Obstetric Anaesthesia by Craford
9. Miller's Anesthesia
10. Stoelting RK, Miller RD Basics of Anaesthesia
11. ICU Book, Paul Marino
12. Text Book of Critical Care, by Fink et al
13. Regional Anaesthesia, P Prithviraj
14. Practical Management of Pain, Raj
15. Stoelting and Dierdorf: Anaesthesia and Co-existing Disease
16. Dorsch and Dorsch: Understanding Anaesthesia Equipments
17. ECG by Shamroth/Goldman
18. Anatomy for Anaesthetists by Harold Ellis
19. Clinical Anesthesia by P.G.Barash
20. Longneckers Anaesthesiology- Mcgraw Hill

Must refer:

1. Cucchiara and Michenfelder: Clinical Neuroanaesthesia
2. Cottrell and Smith: Anaesthesia and Neurosurgery
3. Complications in Anaesthesiology by Orkin
4. Complications in Anaesthesia by Raven
5. Airway management by JL Benumof
6. Obstetric Anaesthesia by Chestnut

Journals

03-05 international Journals and 02 national (all indexed) jour



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