



**RAMAIAH
UNIVERSITY**
OF APPLIED SCIENCES

M.S. Ramaiah University of Applied Sciences

Programme Structure and Course Details

Of

M.CH Urology 2022 onwards

M.S. Ramaiah University of Applied Sciences

Ramaiah Medical College


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Bangalore - 560 054


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


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Bangalore-560054



**RAMAIAH
UNIVERSITY**
OF APPLIED SCIENCES

M.S. Ramaiah University of Applied Sciences

Programme Specifications

M.CH Urology Programme 2022 onwards

Programme Code: MD156

M.S. Ramaiah University of Applied Sciences

Ramaiah Medical College

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Bangalore - 560 054

[Signature]

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

[Signature]

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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 programs.

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

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

Programme Specifications: M.Ch Urology

Faculty	Ramaiah Medical College
Department	Urology
Programme	M.Ch – Urology
Programme Code	M.CH156
Dean of Faculty	Dr Shalini C Nooyi
Head of the Department	Dr Tarun Dilip Javali

1. **Title of the Award:** M.Ch in Urology
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. **Date of 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 healthcare and advance the cause of science of Urology through research & training. Urology is a highly specialized and technical discipline in clinical practice comprising treatment with multiple sub specialties in itself, which includes Endourology, Minimal Invasive Urology (Laparoscopy and Robotic), Uro-Oncology, Female Urology, Paediatric Urology, Reconstructive Urology, Andrology and Renal Transplant. 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 practice and other disciplines related to Urology.

Shalini

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M.S. Ramaiah Medical College and Hospital
M.S. Ramaiah University of Applied Sciences
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Program Outcomes (PO) for M.Ch Urology

At the end of the program the candidates should

PO1. Develop the knowledge, skills and attitude to be a competent Urologist.

PO2. Demonstrate a commitment to excellence and continuous professional

Course Code and name	Program Outcomes PO	Program Specific Outcomes PSO

development with integrity. To be compassionate and sensitive to patient care.

PO3. To be able to acquire and develop the knowledge, skills and attitude required to be a competent Urologist and ethical researcher and teacher.

PO4. To be able to independently perform surgical procedures applicable to Urology with a great degree of professionalism and competence.

DEPARTMENT OF UROLOGY PROGRAM SPECIFIC OUTCOMES (PSO) FOR POST GRADUATE STUDENTS

At the end of the Program, the students should be able

PSO1. To acquire skills in proper history taking, clinical examination and relevant investigations.

PSO2. To be able to advise specific investigations like Uroflowmetry, Ultrasound, CT scan, MRI and Doppler studies and their correct interpretation and diagnosis

PSO3. To be able to handle urological equipments like endo-urology, laparoscopic and other basic urology instruments.

PSO4. To be able to teach and assess undergraduates and broad specialty surgical postgraduates with the help of senior surgeons and also be able to conduct fundamental research activities independently or as a team member.

PSO5. To apply skills learnt in the advanced learning center for patient care, application of principles of professionalism, ethics and effective communication in the conduct of routine urological services, teaching activities and research.



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	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5
MCHC501A Basic Sciences as applied to Urology	3	3	3	2	3	2	2	3	2
MCHC502A Principles and Practice of Urology	3	3	3	3	3	2	3	2	3
MCHC503A Specialty Urology	3	3	3	3	3	3	3	3	2
MCHC504A Operative urology and recent advances in Urology	3	3	2	3	3	3	3	3	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution									

Course-PO-PSO mapping



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

Yeshu Rao
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560054

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 term 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.

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

Medh 9/20
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

11. Teaching Learning Methods:

This being a highly dedicated PG super specialty introducing several new concepts/subjects in the course, it is recommended to divide the entire course into two components consisting of First Term of BASIC CONCEPTS OF THE SPECIALTY and the next two terms 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 programme
4. Skills training
5. Conferences, Seminars, Continuing Medical Education (CME) Programmes.
6. Journal Club
7. Research Presentation and review of research work.
8. A postgraduate student of a postgraduate degree course in super 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



Shalini

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Yashwanth

Dean - Academics

postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

09. Participation in workshops, conferences and presentation of papers etc.

10. 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.

11. Postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

12. Department should encourage e-learning activities.

12. Innovative teaching learning practices

1. Theme based teaching learning activities eg. Hands on RIRS

2. Focused discussion during journal club inculcates culture in the areas of research and publication

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. Regular formative assessments which includes Open book exams, OSCE, Impact: SWOT analysis can be done and timely counseling can be done
2. Theory paper covering basic topics in urology at the end of 1st term. FA at the end of second term will be on common Urological procedures. Mock summative assessment will be conducted in the same pattern as university exams three months before the final exams.
3. Teaching skills: Candidates are encouraged to teach undergraduate medical students and paramedical students, if any. In addition, the second term student acts as a mentor for the immediate junior in all aspects of the course.
4. Blue printing of the question for the formative assessment
 - 1st term – Basic sciences and general Urology
 - 2nd term – Endo-urology, Andrology, Female Urology and basics of Minimal invasive techniques and Uro-Oncology
 - 3rd term – Recent advances, Paediatric Urology, Reconstructive Urology, Advanced laparoscopic and Robotic Surgeries and Uro-Oncology.
5. Assessment of seminar and journal club presentations by faculty
6. Documentation in log books with periodic monitoring by faculty
7. Formulation and conduct of a research project
8. Summative university examination

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M.L.G/ao

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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. Details of distribution of topics for each paper will be as follows.

Name of the course	Course Code	Course Content	Marks
Basic sciences as related to Urology.	MCHC501A	Anatomy, Physiology, Biochemistry, Pathophysiology, Pharmacology, Microbiology, Infectious diseases, Inflammation, Uro-Radiology	100
General Adult and Paediatric Urology	MCHC502A	Urolithiasis, Neuro-Urology, Benign Diseases of Prostate, Reconstructive Urology, Congenital Diseases in Urology	100
Regional and Systemic Urology	MCHC503A	Uro-oncology, Female Urology, Renal Transplantation, Operative techniques	100
Recent Advances in Urology	MCHC504A	Recent advances in the field of Uro-oncology, Endo-Urology, Operative Techniques, Imaging, Diagnosis	100

A. Clinical: 200marks

One long case of 100 marks, three short cases of 20 marks each and two ward rounds of 20 marks each.

B. VivaVoice: 100 marks

1. Uro-radiology – 25 marks
2. Pathology specimens – 25 marks
3. Instruments and Operative Urology 25 marks
4. Logbook and Research methodology 25 marks

**C. Total Marks Distribution:**

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

Shalini

Principal and Dean

M.S. Ramaiah Medical College and Hospital

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H. K. Rao
Dean - Academics

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Annexures

Annexure 1 - Sample of monthly schedules

Annexure 2 - PG posting policy

Annexure 3 - Logbook entry

Annexure 4 - Operative Skills

GC
Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 094

Shalini
Principal and Dean
M.S. Ramaiah Medical College and Hospital
M.S. Ramaiah University of Applied Sciences

Med. Gao
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560064

Annexure 1
MONTHWISE TEACHING SCHEDULE FOR POST GRADUATES DEPARTMENT OF
UROLOGY

MONTH	TOPICS	Teacher
January	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
February	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
March	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
April	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
May	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
June	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
July	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
August	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
September	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
October	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
November	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator
December	Subject seminars, Journal club, Recent advances and clinical case discussions	Moderator

Note:

1. The respective faculty will be in charge of the entire process planning, implementation and assessment.
2. It is preferable to put the time table latest by 25th of previous month.
3. PGs are expected to keep in touch with the respective teachers well ahead of the class.

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Annexure 1.a
Sample of monthly schedules

UNIT	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
UNIT 1	OPD, Ward Rounds, Bed Side Clinics.	Academic Class, OT, Case Discussions And Operative Techniques.	OPD, Ward Rounds, Bed Side Clinics.	OT, Case Discussions And Operative Techniques.	Academic Class, OPD, Ward Rounds, Bed Side Clinics.	OT, Case Discussions And Operative Techniques.
UNIT 2	OT, Case Discussions And Operative Techniques	Academic Class, OPD, Ward Rounds, Bed Side Clinics.	OT, Case Discussions And Operative Techniques.	OPD, Ward Rounds, Bed Side Clinics.	Academic Class, OT, Case Discussions And Operative Techniques.	OPD, Ward Rounds, Bed Side Clinics.

1ST Thursday Uro-Oncology class

Last Tuesday Uro-Pathology class.



Shalini
Principal and Dean
M.S. Ramiah Medical College and Hospital
M.S. Ramiah University of Applied Sciences
Bangalore-560054

MedL 9/20
Dean - Academics
M.S. Ramiah University of Applied Sciences
Bangalore-560054

ANNEXURE – 2
DEPARTMENT OF UROLOGY

Post graduates will be posted in each Unit for 6 months.



Shalini

Principal and Dean

M.S. Ramalah Medical College and Hospital
M.S. Ramalah University of Applied Sciences

H. L. Gao

Dean - Academics

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

Annexure 4

A list of operative procedures has been given in the following tables. It is also recommended that graded responsibility be given depending upon on the knowledge and the skills already acquired by the student. The term wise distribution of the skills recommended is to be used as a general guideline and some overlap is inevitable. List of skills in various specialty subjects has been made. The list within the tables, indicates the surgical procedures that the student should, by the end of the course, be able to perform independently (P) by himself/herself or should have performed with assistance (PA) during the course. The other categories of the surgical procedures that the student should either have observed (O) or have assisted the operating surgeon (A) are also mentioned. Note for all categories, the student washes up in the operating room.

Key for abbreviations used

- O - Observe
 A - Assist senior
 PA - Performs with assistance from a senior or under supervision
 P - Performs independently

List of Procedures indicating minimum number to be observed (O), Assisted (A), Performed under assistance (PA) and Performed independently (P) during the course, (term wise)

Skills	I Term	II Term	III Term
Endo-Urology	O -30, P- 30	P -30	P - 30
Minimal Invasive Urology	O -03, A- 05	A -10	PA - 05, P-5
Female Urology	O -05, A- 05	PA -05	P - 05
Pediatric Urology	O - 05 A-05	PA -05	P - 05
Uro-Oncology	O - 05, A -05	PA- 05	P - 05
Reconstructive Urology	O -05, A- 05	PA- 05	P - 05
Renal Transplant	O - 05, A - 05	PA - 05,	P - 05



Shalini

Principal and Dean

M.S. Ramaiah Medical College and Hospital

M.S. Ramaiah University of Applied Sciences

Medya

Dean - Academics

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

Course Specifications M.CH Urology

2022 onwards

Course Code: MCHC501A



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

M. L. Rao
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

Course Specifications

Course Title	Basic Sciences as applied to Urology
Course Code	MCHC501A
Department	Urology
Faculty	Ramaiah Medical College

Course Summary

The course is designed in such a way that candidate will have through knowledge of the basics of the urology. They will learn to elicit relevant history, focussed clinical examination, order necessary investigations. They will also master basic OPD procedures (Foley's Catherisation, Urethral Dilatation)

Course Outcomes

- CO 1- Demonstrate through knowledge of basic sciences related to Urology
 CO 2- Provide knowledge based treatment to common urology diseases (UTI)
 CO 3- Thoroughly elicit history, perform clinical examination and investigate
 CO 4- Operative Skills as per Annexure-4

Course Content

Anatomy, Physiology, Biochemistry, Pharmacology, Pathophysiology, Microbiology, Infectious diseases & Uro-Radiology related to Urology.



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

HedL 9/20
 Dean - Academics
 M.S. Ramaiah University of Applied Sciences
 Bangalore-560054

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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcome	Program Outcomes				Program Specific Outcomes				
		PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5
MCHC501A										
Basic sciences as related to Urology	CO 1	3	3	3	2	3	2	2	3	2
	CO 2	2	3	3	3	3	2	3	3	3
	CO 3	3	2	2	3	2	3	3	2	3
	CO 4	2	3	3	2	3	3	2	3	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										


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 M.S. Ramaiah University of Applied Sciences
 Bangalore - 560 064


 Principal and Dean
 M.S. Ramaiah Medical College and Hospital
 M.S. Ramaiah University of Applied Sciences


 Dean - Academics
 M.S. Ramaiah University of Applied Sciences
 Bangalore - 560 064

Course Specifications M.CH Urology

2022 onwards

Course Code: MCHC502A



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

MesL9/ao
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

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Course Specifications

Course Title	Principles and Practice of Urology
Course Code	MCHC502A
Department	Urology
Faculty	Ramaiah Medical College

Course Summary

The course is designed in such a way that the candidate will master the multidisciplinary management of urologic diseases. They will also learn to perform advanced OPD procedures like Guided biopsies, Urodynamic Study and SPC insertion.

Course Outcomes

- CO 1- Thoroughly manage the major load of urology practice that are Stones & BPH
 CO 2- Systematic management of Neurogenic bladders and stricture urethra
 CO 3- Evaluation and management of Congenital diseases in urology
 CO 4- Operative skills as per Annexure-4

Course Content

Urolithiasis, Neuro-Urology, Benign Diseases of Prostate, Reconstructive Urology, Congenital Diseases in Urology



Shalini
 Principal and Dean
 M.S. Ramaiah Medical College and Hospital
 M.S. Ramaiah University of Applied Sciences
 Bangalore

Medk 9/20
 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
MCHC502A										
Principles and Practice of Urology	CO 1	3	3	3	3	3	2	3	2	3
	CO 2	2	3	3	3	3	2	3	3	3
	CO 3	3	3	3	3	3	2	3	2	3
	CO 4	2	3	3	3	3	2	3	3	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										



Shalini
Principal and Dean
M.S. Ramaiah Medical College and Hospital
M.S. Ramaiah University of Applied Sciences
Bangalore - 560074

MedLya
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560074

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

Course Specifications M.CH Urology

2022 onwards

Course Code: MCHC503A



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

Malayappa
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

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Course Specifications

Course Title	Specialty Urology
Course Code	MCHC503A
Department	Urology
Faculty	Ramaiah Medical College

Course Summary

The course is designed in such a way that the candidate masters the management of different sub-specialties of urology & advanced urological procedures

Course Outcomes

- CO 1- Systematic management of oncologic diseases
- CO 2- Medical and Surgical management of urologic diseases in females
- CO 3- Preoperative workup, intraoperative techniques and postoperative management and follow up of renal transplant patients
- CO 4- Operative skills as per Annexure-4

Course Contents

Uro-oncology, Female Urology, Renal Transplantation, Operative techniques



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

M. L. Gao
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

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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
MCHC503A Speciality Urology										
	CO 1	3	3	3	3	3	3	3	3	2
	CO 2	3	3	3	2	3	3	2	2	3
	CO 3	2	3	3	3	2	2	3	3	3
	CO 4	3	2	2	3	3	3	2	2	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										



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Principal and Dean

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

Medh 4 Jao

Dean - Academics

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

Course Specifications M.CH Urology

2022 onwards

Course Code: MCHC504A



Shalini
Principal and Dean

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

MedL9ao
Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560054

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Course Specifications

Course Title	Operative Urology & Recent advances in Urology
Course Code	MCHC504A
Department	Urology
Faculty	Ramaiah Medical College

Course Summary

The course is designed in such a way that the candidate masters the most advanced and complex of urological procedures and performs them independently with confidence and best outcomes for the patient. They will also stay updated about the most recent advances in the field of urology happening around the world.

Course Outcomes

CO 1- Stay updated about the most recent advances in the field of urology happening around the world

CO 2- Operative skills as per Annexure-4

Course Contents

Recent advances in the field of Uro-Oncology, Endo-Urology, Robotics, Operative Techniques, Imaging, and Diagnosis.



Shalini

Principal and Dean

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

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

MedL 4/20
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
MCHC504A										
Operative Urology & Recent advances in Urology	CO 1	3	3	3	3	3	2	3	3	3
	CO 2	3	3	2	3	3	3	3	3	2
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										



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MedLynaw

Dean - Academics

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Course Materials:RECOMMENDED BOOKS AND JOURNALS


I. Essential Books

1. Campbell-Walsh Urology 12th edition (3 volumes)
2. Campbell's Urology 13th edition
3. Ed by Pollack, Howard M. Clinical urography (3 volumes)
4. Whitaker, Robert H.; Woodard, John R. (Pediatric Urology)
5. Blandy, John. Operative Urology
6. Hinman's Atlas of Urologic Surgery

II. Reference Books

1. Cockett, Abraham T. K.; Koshiba, Ken (Colour Atlas of Urologic Surgery)
2. ed by Janetschek, Gunter. & (Laparoscopic Surgery in Urology)
3. Mc Aninch, Jack W. (Traumatic & Reconstructive Urology)
4. Asmussen, Mogens.; Miller, Ashton. Clinical Gynaecology Urology
5. Poppas, Dix P. & ... (Atlas of clinical urology, pediatric urology)
6. Smith's Textbook of Endourology 2 volumes


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


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


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