



**RAMAIAH
UNIVERSITY**
OF APPLIED SCIENCES

M.S. Ramaiah University of Applied Sciences

Programme Structure and Course Details

Of

M.CH Surgical Oncology 2022 onwards

Registrar

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

M.S. Ramaiah University of Applied Sciences

Ramaiah Medical College

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
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**RAMAIAH
UNIVERSITY**
OF APPLIED SCIENCES

M.S. Ramaiah University of Applied Sciences

Programme Specifications

M.CH Surgical Oncology Programme 2022

onwards

Programme Code: MD161

M.S. Ramaiah University of Applied Sciences

Ramaiah Medical College

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Bangalore-560054



M. L. Jayarao
Dean - Academics
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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 GOALS AND OBJECTIVES

The purpose of PG education in super specialty is to create specialists who would provide high quality health care and advance the cause of science of oncology through research & training.

Surgical Oncology is a highly specialized and technical discipline in Surgical treatment of cancers and to plan and coordinate between other adjunct specialties like Radiation oncology, Medical Oncology in treatment of cancer. 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 oncology.

The goal of providing training under this specialty is to enable the post graduate students to acquire complete knowledge in diagnosis, treatment and comprehensive management of cancer patients with surgeries. This clinical specialty is exclusively focused only on oncology at the post-graduate level. Hence, the doctors trained under this field, after completing their course, should be fully capable of handling cancer patients with surgical care & treatment. Besides, as per WHO, they should also be capable of guiding and coordinating cancer prevention, control, screening, early detection, rehabilitation, palliative and terminal care programs for these patients in the country as per the evolving needs and to meet the objectives of the National Cancer Control Programme of India. The post graduate students would also be expected to have acquired knowledge of various research methodologies, a broad based training in all aspects of cancer science and treatment and be able to plan/coordinate research studies in the departmental, and be a part of inter-departmental or multi-centric, national/international research programmes.

The PG students would have surgical management of these patients during the course and will also advise and supervise their palliative, supportive and terminal care, whenever needed, in coordination with other supportive staff. By the end of the three year course, the post graduate student is expected to have acquired a wide knowledge of malignant disease processes and efficient of surgical management of patients with cancer. The main emphasis during training shall be on the treatment planning and surgeries. But a good knowledge of General medicine, Radiation, Radiology and pathology as pertaining to surgical Oncology.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

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Programme Specifications: M.Ch Surgical Oncology

Faculty	Ramaiah Medical College
Department	Surgical Oncology
Programme	M.Ch Surgical Oncology
Programme Code	M.CH161
Dean of Faculty	Dr Shalini C Nooyi
Head of the Department	Dr Harish.K

1. **Title of the Award:** M.CH in Surgical Oncology
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 oncology through research & training. Oncology is a highly specialized and technical discipline in clinical medicine. Surgical Oncology is a highly specialized and technical discipline in Surgical treatment of cancers and to plan and coordinate between other adjunct specialties like Radiation oncology, Medical Oncology in treatment of cancer. 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 oncology.



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**PROGRAMME OBJECTIVES (PO) FOR
M.CH SURGICAL ONCOLOGY POSTGRADUATE STUDENTS**

PO1: Provide an all-rounded experience in Surgical oncology to prepare each student for either a private or an academic career in the speciality and to provide the best care for patients.

PO2: Provide opportunities to involve in teaching, clinical research and to publish medical literature.

PO3: To be patient safe, to give quality of service and patient counselling.

**PROGRAMME SPECIFIC OUTCOME (PSO)
FOR M.CH SURGICAL ONCOLOGY POSTGRADUATE STUDENTS**

PSO1: Be aware of early signs of cancer, causes of cancer and various available investigations to stage the disease.

PSO2: Appreciate the social, cultural, economic and environmental factors associated with the diagnosis of cancer.

PSO3: Exhibit awareness of increasing incidence of cancer.

PSO4: Cancer prevention, control, screening, early detection, etiology and molecular changes leading to cancer, rehabilitation, palliative and terminal care of cancer patient

PSO5: Will be able to conduct various research & methodologies, a broad based training in all aspects of cancer science and treatment and be able to plan/coordinate research studies in the department, and be a part of inter-departmental or multi-centric, national/international research programmes.

PSO6: The candidate will be able to diagnose, treat and coordinate in the comprehensive management of cancer patients

PSO7: The candidate will be able to do common diagnostic procedures and surgeries pertaining to management of cancer and its complications

PSO8: The candidate will be able to organize and head multidisciplinary tumor boards and facilitate in treating cancer patients

PSO9: The candidate will be able to have knowledge regarding allied specialties like Radiotherapy, Medical oncology, Radiology and pathology, so that he will be able to give a bird eye view of overall treatment and management of cancers.

PSO10: Understand various national cancer control programmes and coordinate for treatment and screening of cancers and work towards the national goal.

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

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Course-PO-PSO Mapping

<u>Course Code & Name</u>	<u>Program Outcomes</u>			<u>Program Specific Outcomes</u>									
	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
MHC521A: Basic Sciences relevant to Surgical Oncology	3	3	3	2	1		2		2			3	
MHC522A Principles of Surgical Oncology- 1	3	3	2	3	2	1	2	2	3	1	1	1	1
MHC523A Principle of Surgical Oncology – 2	3	3	2	3	2	1	2	2	3	1	1	1	1
MHC524A Cancer epidemiology, Prevention, psycho-oncology, Rehabilitation, societal Oncology	3	3	2	2	3	3	3	3	2	2	2		3



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

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

(B) Monitoring of progress of Studies

1. Work diary / Log Book - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. as per the model checklists and logbook specimen copy.
2. Special mention may be made of the presentations by the candidate as well as details of clinical or planning procedures, if any conducted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.
3. Procedure for defaulters: There will be a committee constituted by all teachers to review such situations. The defaulting candidate is 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.

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11. Teaching and learning activities

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.

- The Medical Education Unit will conduct common induction training for PGs of all specialties focusing on facilities, training, clinical services and research.
- 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 Radiation Oncology and orienting them to department will be done during first month of the course.
- A list of teaching and learning activities designed to facilitate students acquire skills and essential knowledge outlined is given below.

SELF DIRECTED LEARNING	SEMINAR	DOAP
Epidemiology/staging of cancers of all sites	Management of all cancers	Surgical procedures of all sites except brain and spine

- Additional:
 - Weekly once tumour board discussion
 - Monthly once multidisciplinary seminars
 - Interdepartmental tumour boards
- Continuing Medical Education Programmes (CME) : Recommended that at least 2 state level CME programmes should be attended by each student in 3 years.
- Conferences: its mandatory to attend at least two conferences (State or National level), present one poster and publish at least one article during the course.
- Graded Responsibility in care of Patients and Operative work (Structured Training Schedule)
 - 1st Year : Basic sciences
 - Endoscopic Procedures
 - Diagnostic
 - Therapeutic
 - Imaging Techniques
 - Conventional Radiology
 - Nuclear Medicine
 - CT Scan / MRI
 - Mammography / Mammotome
 - Observing & Assisting Major Surgical procedures & performing minor surgical procedures independently
 - 2nd Year : Performing major surgeries with assistances
 - 3rd Year : Operating major surgeries independently



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12. 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.

In addition yearly FA is done covering basic oncological topics in the 1st year Theory paper of 50marks. FA at the end of second year will be on Sarcoma, endocrine cancers, gynecological cancers with clinical case presentation. Rest of the topics with clinical presentation in final year. A Mock exam of 100marks with practical's and clinical to be conducted two months prior to final exam.


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.

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 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.

Attendance of 80% every year is mandatory for appearing in the final university examination.

Scheme of Examination:

There shall be four question papers, each of three hours duration. Each paper shall consist of 10 questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in all papers. Details of distribution of topics for each paper will be as follows. (as per course contents)



Name Of The Course	Course Code	Topics	Marks
Basic Sciences relevant to Surgical Oncology	MCH521A	Basic Sciences, includes Cancer Biology, Tumor Immunology, Cancer Etiology, Pharmacology, Radiation Biology, Tumor Pathology.	100
Principles of Surgical Oncology- 1	MCH522A	Principles of Surgical Oncology, Management of Head & Neck, thorax, Gastrointestinal system & lymphomas	100
Principle of Surgical Oncology – 2	MCH523A	Genito urinary system, Gynecological cancer, Breast, Bone & Soft tissue, Endocrine tumors, Skin & Central nervous system.	100
Cancer epidemiology, Prevention, Images, psycho-oncology, Rehabilitation, societal Oncology	MCH524A	Cancer epidemiology, Prevention, Imaging, psycho-oncology, Rehabilitation, societal Oncology, neoplasms in childhood, complications of cancer treatment, Oncologic emergencies.	100

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Clinical Examination: Marks: 200

To elicit competence in clinical skills: One long case, two short cases and ward rounds

Viva voce: Marks = 100

All examiners will conduct viva – voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents, in addition candidates may be also be given case reports, charts, gross specimens, Histo-pathology slides, X-rays, Ultrasound, CT scan images, etc, for interpretation. Questions on use of instruments will be asked. It includes discussion on Research also.

Maximum Marks

Theory	Practical	Viva	Grand total
400	200	100	700



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ANNEXURES

- Annexure 1_ Teaching schedule plan
- Annexure2_ Competency based medical education
- Annexure3_ PG outside posting policy
- Annexure4_ Model check-list for evaluation of journal review presentations
- Annexure5_ Model check-list for evaluation of seminar presentations
- Annexure6_ Model check list for evaluation of clinical work in ward / opd
- Annexure 7 _ Model checklist for evaluation form for clinical presentation
- Annexure 8 _ model check list for evaluation of teaching skill practice
- Annexure 9 _ Log book
- Annexure 10 _ Model Overall Assessment Sheet
- Annexure11 _ Students appraisal form

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ANNEXURE 1**AUGUST TEACHING SCHEDULE FOR
M.CH SURGICAL ONCOLOGY**

DATE	TIMINGS	TOPICS	MODERATOR	PRESENTER
04/09/2023 Monday	3-4pm Seminar Room	Case presentation Akilesh - Breast cancer Ashima - Thyroid	All Faculty	Dr. Akhilesh & Dr. Ashima
07/09/2023 Thursday	9am-10am 10-11am Ward	Multidisciplinary Tumor Board Grand Rounds	All Faculty	All PGs
11/09/2023 Monday	3-4pm Seminar Room	Preoperative assessment of thoracic surgery	Dr. Deepak	Dr Manish
14/09/2023 Thursday	9am-10am 10-11am Ward	Multidisciplinary Tumor Board Grand Rounds	All Faculty	All PGs
15/09/2023 Friday	3-4pm Ward	Morbidity and mortality meeting (August 2023)	All Faculty	Dr. Indrajeeth
21/09/2023 Thursday	3-4pm Seminar Room	Multidisciplinary Tumor Board Grand Rounds	All faculty	All PGs
26/09/2023 Monday	3-4pm Seminar Room	Multidisciplinary Seminar: Paraaortic dissection vs sampling - Gynae Onco -	Dr. Aravind S Kapali	Dr Ashima
28/09/2023 Wednesday	9am-10am 10-11am Ward	Multidisciplinary Tumor Board Grand Rounds	All Faculty	All PGs

ses will be based on discussion

- PPTS to be done for each presentation (Seminar/ Journal club)
- The PGs shall discuss with the moderator at least 3-5days before the date of the class.

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ANNEXURE 2**Competency based medical education for the postgraduates of Surgical Oncology, RMC****For acquiring Clinical skills**

- Following is the table where you will find the details
- Idea is to teach, assess in an on-going manner and document.
- K/S/A refers to Knowledge/skill/affective domain and what is mentioned is the predominant domain to gain that particular competency

Topics	Competency	Sub competency	K/S/A Predominant and must know (M), Nice to know (N) and desirable to know (D)	Teaching method	Assessment	Remarks	Doctors Signature
1. Surgical oncology – Basic Techniques	Preoperative assessment	History taking	K/M	DOAP			
		Lab Parameters	K/M	DOAP			
		Imaging and review	K/N	DOAP			
		Optimization of the patient: (Both nutritional & physical)	K/N	DOAP			
	Intraoperative assessment	Positioning of the patient	S/M	DOAP			
		OT Etiquette & asepsis	S/M	DOAP			
		Handling of the tissue	S/M	DOAP			
		Dissection of anatomical planes	S/M	DOAP			
		Demonstration of local anatomy	S/M	DOAP			
		Hemostasis how to achieve and handle vessels	S/M	DOAP			
		Counts of Mops, Gauze & drains	S/M	DOAP			
		Closure techniques	S/M	DOAP			
		Small local flaps for reconstruction	S/M	DOAP			
	Post operative assessment	Ventilators settings	K/S/N	DOAP			
		Fluid balance	K/N	DOAP			



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		Drain tube assessment & maintenance	K/S/M	DOAP			
		Wound care	S/M	DOAP			
		Investigations	K/M	DOAP			
		Identifying complications	K/S/M	DOAP			
2. Surgeries of Head and neck	Pre-operative assessment	Clinical assessment for surgery	K/S/M	DOAP			
		Radiological evaluation of resection (Operability)	K/S/N	DOAP			
		Anticipated difficult steps	K/S/M	DOAP			
	Intraoperative assessment	Positioning of patient	S/M	DOAP			
		Planning of Incision	S/M	DOAP			
		Identification of vital structure & preservation	S/M	DOAP			
		Neck dissection and SLNB	S/M	DOAP			
		Reconstruction	S/M	DOAP			
		Tracheostomy	S/M	DOAP			
	Post Operative assessment	Identifying bleed	S/M	DOAP			
		Monitor Flaps	S/M	DOAP			
		Drain care & maintenance	S/M	DOAP			
		Identifying complication and correction	S/M	DOAP			
	Thyroid surgery:	IDL	S/M	DOAP			
		Retrosternal assessment	S/M	DOAP			
		RLN identification & CCLND	S/M	DOAP			
		Hypocalcemia & treatment	S/M	DOAP			
		Radioiodine uptake and ablation	S/M	DOAP			
	Parotid surgery	Incision	K/S/M	DOAP			
		Identifying facial nerve palsy	K/S/M	DOAP			
		Identifying facial nerve	S/M	DOAP			
		Interpretation of Histopathology and adjuvant treatment planning	K/M	DOAP			
3. Breast surgery	Pre operative assessment	Assessment of lump and axilla	K/S/M	DOAP			
		Planning of incision & reconstruction	K/S/M	DOAP			
		Planning of SLNB & Frozen	K/S/M	DOAP			
	Intraoperative assessment	Planning of incision	S/M	DOAP			
		MRM	S/M	DOAP			



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		BCS	S/M	DOAP			
		SLNB	K/S/M	DOAP			
		Local flaps	K/S/M	DOAP			
		Reconstruction	K/S/N	DOAP			
	Post operative assessment	Drain care & maintenance	K/S/M	DOAP			
		Identifying bleeding & re-exploration	S/M	DOAP			
		Flap monitoring	S/M	DOAP			
		Follow up lymphedema & recurrence	K/S/M	DOAP			
	4. Gynecological surgeries	Pre operative assessment	Bimanual Palpation and operability assessment	S/M	DOAP		
			Imaging & lab investigations	K/S/M	DOAP		
			DVT prophylaxis	K/M	DOAP		
		Intraoperative assessment	Positioning of patient	S/M	DOAP		
			Planning of Incision	S/M	DOAP		
			Identification of ureters and pelvic nerves preservation	S/M	DOAP		
			Multi organ resection and indication	S/M	DOAP		
			HIPEC	K/S/N	DOAP		
		Post operative assessment	DVT prophylaxis	K/M	DOAP		
			Identifying of complications (Bladder & bowel disturbances)	S/M	DOAP		
			SLNB	S/M	DOAP		
			Minimally invasive technique	K/S/N	DOAP		
2. GI Surgeries	Pre operative assessment	Nutritional assessment	K/M	DOAP			
		Lab interpretation and optimization	K/M	DOAP			
		Identification of emergency	K/S/M	DOAP			
		Bowel preparation and Antibiotic policy	K/M	DOAP			
	Intraoperative assessment	Handling of the bowel	S/M	DOAP			
		Anastomosis	S/M	DOAP			
		Usage of staplers	K/S/M	DOAP			
		Assessment of viability & integrity of anastomosis	S/M	DOAP			
		Anastomosis of bile duct & Drainage	S/M	DOAP			
		Anastomosis of pancreas	S/M	DOAP			
		Liver resections	S/M	DOAP			
		Daily Monitoring of labs & interpretation with	K/S/M	DOAP			
	Post operative assessment						



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		correction					
		Handling of feeding tubes, drains	S/M	DOAP			
		Identification of leaks & re-exploration	S/M	DOAP			
		Parenteral nutrition	K/S/M	DOAP			
		Stoma bag usage & care	K/S/M	DOAP			
3. Thoracic surgeries	Pre operative assessment	Optimization of lung and assessment for resection	K/S/M	DOAP			
		Imaging interpretation and operability	K/S/N	DOAP			
		Investigations and workup for radical surgery	K/M	DOAP			
	Intraoperative assessment	Position of patient for surgery	K/S/M	DOAP			
		Handling of lung, heart & great vessels	S/M	DOAP			
		ICD care and management	S/M	DOAP			
		Thoracic wall resection and reconstruction	K/S/M	DOAP			
		VATS	K/S/N	DOAP			
	Post operative assessment	Bleeding and re-exploration	K/S/M	DOAP			
		Ventilator settings & weaning	K/S/M	DOAP			
		Infection and management.	K/S/M	DOAP			
		Pain management	K/S/M	DOAP			
4. Sarcomas	Pre operative assessment	Imaging & workup	K/S/M	DOAP			
		Assessment of operability	K/S/M	DOAP			
		Anticipating reconstruction and plastic help	K/S/M	DOAP			
	Intraoperative assessment	Counseling of patients of limb loss and function	K/S/M	DOAP			
		Intra OP Brachytherapy	K/S/M	DOAP			
		Positioning of patient	K/S/M	DOAP			
		Identification of vessels and nerves	K/S/M	DOAP			
		Reconstruction with prosthesis and implants and grafts	S/M	DOAP			
		Brachytherapy catheter placement	S/M	DOAP			
	Post operative assessment	Limb monitoring	K/S/M	DOAP			
		Flap monitoring	K/S/M	DOAP			

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8. Supportive and Palliative Care [Pain Relief and others]		Rehabilitation of limb	K/S/M	DOAP			
		Wound care & drain care	K/S/M	DOAP			
		Interpretation of pathology and adjuvant treatments	K/S/M	DOAP			
	A.1 Drug treatment	A wide range analgesic techniques, including simple analgesics, mild and strong opioids, given by a variety of routes	A/M	DOAP			
		Management of the complications of analgesics, including constipation, nausea, gastro-intestinal discomfort and analgesic intolerance.	A/M	DOAP			
	A.2 Mechanical methods	Prescription, siting and evaluation of TENS analgesia,	A/M	Small group discussion			
		Referral of patients with refractory pain for procedures such as a nerve block, intrathecal analgesia, rhizotomy or orthopaedic stabilization.	A/M	DOAP			
	A.3 Radiotherapy	Use of radiation to treat painful metastatic disease with single fractions, multiple fractions and hemibody radiotherapy	A/M	DOAP			
	b. Nausea and Vomiting	Treatment of nausea and vomiting arising in advanced illness using anti-emetics,	A/M	DOAP			
		Palliative management of sub-acute intestinal obstruction	A/M	DOAP			
	c. Anorexia and Dysphagia	Management, where appropriate, with corticosteroids, progestogens and nasal gastric feeding	A/M	DOAP			

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	d. Depression and Anxiety	Knowledge regarding treatment of depression at all stages of cancer management, using counselling and drug techniques with anti-depressants,	K/M	DOAP			
		Knowledge regarding treatment of anxiety with counselling, anxiolytics and Major tranquilisers.	K/M	DOAP			
	e. Hospice Care	Awareness of local hospice facilities,	K/M	DOAP			
		A one week (at least) attachment to a hospice or palliative care team.	A/M	DOAP			
	f. Counseling	Counselling of patients and relatives at all stages of the disease	A/M	DOAP			
9. Investigational Techniques	a. Laboratory Investigations	Interpretation of the results of	K/M	Bedside teaching			
		haematological, biochemical and radioimmunoassay investigations					
	b. Radiology	Attendance at regular radiological review sessions involving a consultant clinical radiologist for the examination of plain x-rays, CT scans, magnetic resonance imaging and ultrasound covering the whole spectrum of cancer radiology,	K/M	Bedside teaching			
		Current indications and techniques in interventional procedures,	K/D	Bedside teaching			
	c. Endoscopy	Indirect laryngoscopy	S/M	Bedside teaching			
		Core biopsy	S/M	Bedside teaching			
		Skin biopsy / Punch biopsy	S/M	Bedside teaching			
		Fibre optic naso-endoscopy	S/N	Bedside teaching			
		Pelvic EUA and cystoscopy	S/N	Bedside Teaching			

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		Pleural tapping	S/M	Bedside Teaching			
		Peritoneal tap	S/M	Bedside Teaching			
		Diagnostic lap & biopsy	S/M	Bedside Teaching			
	d. Radiation Medicine Procedures	Diagnostic imaging – Gamma Camera, SPECT, PETScanner, PET-CT and PET-MRI image fusion studies in Treatment planning, response evaluation and follow up.	K/N	Bedside teaching			
	e. Pathology	Attendance at regular pathological review sessions involving a consultant pathologist	K/M	Bedside teaching			
	f. Genetics in diagnosis, prognosis and treatment of cancer	-	K/N	Bedside teaching			
10. Site or Disease Specific Procedures		Assessment, treatment and follow-up, in detail, for each of the anatomical sites and types of tumour,	A/M	DOAP			
		Presentation and assessment of patients discussed at multidisciplinary team meeting.	K/M	DOAP			
		Staging,	K/M	DOAP			
		Radiotherapy – adjuvant, radical and palliative,	K/M	DOAP			
		Hormone and biological therapy,	K/M	DOAP			
		Palliative care,	A/M	DOAP			
		Appropriate follow up,	A/M	DOAP			
		Acute and late side effects of treatment.	A/M	DOAP			
11. Clinical Trials, Literature and Research		The aims and format of Phase I	K/N	Modules			
		to IV clinical trials,					



		Obtaining informed consent, following study protocols and using data forms,	A/M	DOAP			
		Research programmes (although research experience is not a prerequisite)	K/N	Modules			
		Major areas of current research and of recent important publications,	K/D	Tumour board			
		Submission of a research project to an Ethics Committee	K/M	SDL			
		Structure and functioning of local and national clinical and research cancer networks	K/D	SDL			
		Ethics guidelines of research	K/M	Modules			
12. Communication and Publication		Effective communication with colleagues, patients and their careers,	A/M	DOAP			
		Giving clear and comprehensive descriptions of disease processes, investigations and treatment,	A/M	DOAP			
		Clear expression in English/local	A/M	DOAP			
		script and production of legible script,					
		Preparing work for publication.	K/M				
		Ethics of research publication	K/N				
13. Outpatient and Joint Clinics		Participation in joint consultative clinics and regular general oncology outpatient sessions,	K/N	Tumour board			
		Seeing review and new patients and planning their overall management.	K/M	DOAP			

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14. Resource Management and Quality Assurance		Introduction to the resource management and quality assurance of an oncology service, so as to be able to develop these skills at a later stage	K/D	Small group teaching			
15. Prevention		A broad knowledge of the environmental causes of cancer and possible strategies for prevention	K/M	Small group teaching			
16. Screening		Details of screening programs for cervical, breast, Head & Neck,	K/M	Small group teaching			
		Lungs, Prostate, GIT and other cancers which might form a major proportion of cancer cases in the country in the years to come.					
17. Genetics		The familial aspect of some cancers as in colorectal, breast, ovary, retinoblastoma, multiple cancer syndromes etc and the management of high risk families and genetic counselling.	K/D	Lecture			



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ANNEXURE - 3

Department of Surgical Oncology
Policy for P G Posting in 2nd year of the course

Adyar Cancer Institute (Bone & Soft tissue)	2 weeks
Tata Memorial Hospital –	1 Month
Rural cancer center (Chachar Cancer center)	2 weeks
Minimally invasive cancer surgery (Indo American)	2 weeks
Medical Oncology –	2 weeks
Radiotherapy -	2 weeks
Pathology & cytogenetics –	1 week
Endoscopy –	2 weeks
Nuclear Medicine –	1 week
Radiology –	1 week
Nasal Endoscopy (ENT)	1 week



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ANNEXURE 4MODEL 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 - 5

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 - 6

MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student:

Name of the Unit Head:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or PM					
10.	Over all quality of Ward work					
Total Score						



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ANNEXURE - 7

Check List – 4 EVALUATION FORM FOR CLINICAL PRESENTATION

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 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					
Total Score						

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Annexure - 8

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Date: _____

Topic: _____

Name of the student: _____

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
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 appropriately					
Total Score						

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ANNEXURE - 9


LOG BOOK

Table 1: Academic activities attended

Admission Year:

College: _____

<u>Date</u>	<u>Type of Activity</u> <u>Specify Seminar, Journal Club, Presentation, UG teaching</u>	<u>Particulars</u>



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Table 2 : Academic presentations made by the student

Name: _____ Admission Year: _____ College: _____

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LOG BOOK

Table 3 : Diagnostic and Operative procedures performed

Name:

Admission Year:

College:

Date	Name	ID No.	Procedure	Category O, A, PA, PI*

* Key:

- O - Washed up and observed
 A - Assisted a more senior Surgeon
 PA - Performed procedure under the direct supervision of a senior surgeon
 PI - performed independently



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Annexure 10

Model Overall Assessment Sheet

Name of the College: _____

Academic Year: _____

Check List No	Particulars	Name of Student and Mean Score									
		A	B	C	D	E	F	G	H	I	J
<u>I</u>	<u>Journal Review Presentations</u>										
<u>II</u>	<u>Seminars</u>										
<u>III</u>	<u>Clinical work in wards</u>										
<u>IV</u>	<u>Clinical presentation</u>										
<u>V</u>	<u>Teaching skill practice</u>										
<u>Total Score</u>											

Note: Use separate sheet for each year.



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ANNEXURE-11

Postgraduate Students Appraisal Form Name

of the PG Student Period of Training

Duration:.....to.....

Sl. No	Particulars	Not satisfactory (1,2,3)	Satisfactory (4,5,6)	More than Satisfactory (7,8,9,10)	Remarks
1	Journal based learning				
2	Patient care and rounds				
3.	Bedside teaching, Clinical seminars				
4.	Communication skills				
5.	Log book				
6.	Surgical skill assessment				
7.	CME/Outreach programmes/Conference presentations				
8.	Self-directed learning				
9.	Under-graduate teaching				
10.	Research/Publication				

Sign of the student

Sign of the assessor

Sign of Head of the Department

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Course Specifications M.Ch Surgical Oncology

2022 onwards

Course Code: MCHC521A



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Course Specifications

Course Title	Basic Sciences relevant to Surgical Oncology
Course Code	MCHC521A
Department	Surgical Oncology
Faculty	Ramaiah Medical College

Course summary:

This course is designed in such a way that the student will master the basics of Basic Sciences, includes Cancer Biology, Tumor Immunology, Cancer Etiology, Pharmacology, Radiation Biology, Tumor Pathology.

Course Outcomes:

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

CO 2: Demonstrate the understanding of various concepts of etiology and molecular basis of oncology and screening

CO 3: Demonstrate the understanding of allied subjects, chemotherapy, radiation, radiology and pathology in cancers.

Course Content:

Cancer Biology

1. Molecular Biology
2. Cell Proliferation, Differentiation, and Apoptosis
3. Growth Factor Signal Transduction in Cancer
4. Oncogenes
5. Tumor Suppressor Gene Defects in
6. Recurring Chromosome Rearrangements in Human
7. Cancer
8. Biochemistry of Cancer
9. Invasion and Metastases
10. Tumor Angiogenesis

Tumor Immunology

1. Cancer Etiology
2. Genetic Predisposition to Cancer
3. Chemical Carcinogenesis
4. Hormones and the Etiology of Cancer
5. Ionizing Radiation
6. Ultraviolet Radiation Carcinogenesis
7. Physical Carcinogens
8. Trauma and Inflammation
9. Tumor Viruses



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10. Herpesviruses
11. Papillomaviruses and Cervical Neoplasia
12. Hepatitis Viruses
13. Parasites
14. Chemotherapeutic Agents
15. Folate Antagonists
16. Pyrimidine and Purine Antimetabolites
17. Alkylating Agents and Platinum Antitumor Compounds
18. Anthracyclines and DNA Intercalators /
19. Epipodophyllotoxins / DNA Topoisomerases
20. Microtubule-Targeting Anticancer Drugs Derived from Plants and Microbes: Vinca Alkaloids, Taxanes, and Etoposides, Asparaginase

Principles of Endocrine Therapy

1. Steroid Hormone Binding and Hormone Receptors
2. Hypothalamic and Other Peptide Hormones
3. Corticosteroids
4. Estrogens and Antiestrogens
5. Clinical Use of Aromatase Inhibitors in Breast Carcinoma
6. Progestins
7. Androgen Deprivation Strategies in the Treatment of Advanced Prostate Cancer
8. Cancer Screening and Early Detection

1. Principles of Cancer Pathology
2. Principles of Radiation Oncology
3. Physical and Biologic Basis of Radiation Oncology
4. Principles of Hyperthermia
5. Photodynamic Therapy of Cancer

Principles of Medical Oncology

1. Principles of Biotherapeutics
2. Immunostimulants
3. Active Specific Immunotherapy with Vaccines
4. Interferons
5. Cytokines: Biology and Applications in Cancer Medicine
6. Hematopoietic Growth Factors.
7. Monoclonal Serotherapy
8. Cancer Gene Therapy

Principles of Bone Marrow Transplantation

1. Autologous Bone Marrow and Stem Cell Transplantation
2. Transplantation of Allogeneic Hematopoietic Cells for the Treatment of Malignancies
3. Principles of Multidisciplinary Management



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Course mapping (CO-PO-PSO mapping)

Course code & name	Course outcomes	Program outcomes			Program specific outcomes									
		PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
MCHC521A Basic Sciences relevant to Surgical Oncology	CO1	3	3	2	3	1	2	2	1		2			
	CO2	3	3	3	3	1	3	3	1	1	2	1	1	2
	CO3	3	3	3		1	2			1		2	3	1



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Course Specifications M.Ch Surgical Oncology

2022 onwards

Course Code: MCHC522A



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Course Specifications

Course Title	Principles of Surgical Oncology- 1
Course Code	MCHC522A
Department	Surgical Oncology
Faculty	Ramaiah Medical College

Course Summary:

This course is designed in such a way that the student will master the evidence based management of head & neck, Thorax, Gastrointestinal system & lymphomas.

Course Outcomes:

CO 1: Demonstrate the principles of surgery in Vascular access, Head & neck malignancies, thorax, Gastrointestinal malignancies & Lymphomas.

CO 2: Demonstrate the role of treating complications and newer advances during surgeries for Vascular access, Head & neck malignancies, thorax, Gastrointestinal malignancies & Lymphomas.

CO 3: Demonstrate the role of allied specialty in Vascular access, Head & neck malignancies, thorax, Gastrointestinal malignancies & Lymphomas.

COURSE CONTENT:

1. Principles of Surgical Oncology
2. Vascular Access in Cancer Patients

1. Neoplasms of the Eye

1. Neoplasms of the Head and Neck
2. Head and Neck Cancer
3. Odontogenic Tumors

1. Neoplasms of the Thorax
2. Cancer of the Lung
3. Malignant Mesothelioma
4. Thymomas and Thymic Tumors

1. Primary Germ Cell Tumors of the Thorax
2. Metastatic Tumors in the Thorax
3. Hodgkin's Disease
4. Non-Hodgkin's Lymphomas

1. Neoplasms of the Alimentary Canal
2. Neoplasms of the Esophagus
3. Neoplasms of the Stomach
4. Primary Neoplasms of the Liver
5. Treatment of Liver Metastases
6. The Gallbladder

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7. Diagnosis and Management of Biliary Tract Cancer
8. Neoplasms of the Ampulla of Vater
9. Neoplasms of the Exocrine Pancreas
10. Neoplasms of the Small Intestine, Vermiform
11. Appendix, and Peritoneum
12. Adenocarcinoma of the Colon and Rectum
13. Neoplasms of the Anus



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Course mapping (CO-PO-PSO mapping)

Course Code & Name	Course Outcomes	Program Outcomes			Program Specific Outcomes									
		PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
MCHC522A Principles of Surgical Oncology- 1	CO1	3	1	2	3	1	2	2	1	3	3	2	2	2
	CO2	3	2	3	3	2		1		3	3	2	2	2
	CO3	3	1	2	1	1		2	2	3	2	3	3	2



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Course Specifications M.Ch Surgical Oncology

2022 onwards

Course Code: MCHC523A



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Course Specifications

Course Title	Principle of Surgical Oncology – 2
Course Code	MCHC523A
Department	Surgical Oncology
Faculty	Ramaiah Medical College

Course Summary:

This course is designed in such a way that the student will master the evidence based management of Genito urinary system, Gynecological cancer, Breast, Bone & Soft tissue, Endocrine tumors, Skin & Central nervous system.

Course Outcomes:

CO 1: Demonstrate the principles of surgery in Genito urinary system, Gynecological cancer, Breast, Bone & Soft tissue, Endocrine tumors, Skin & Central nervous system.

CO 2: Demonstration role of complications and newer advances during surgeries for Genito urinary system, Gynecological cancer, Breast, Bone & Soft tissue, Endocrine tumors, Skin & Central nervous system.

CO 3: Demonstration role of allied specialty in Genito urinary system, Gynecological cancer, Breast, Bone & Soft tissue, Endocrine tumors, Skin & Central nervous system.

Course Content:

1. Neoplasms of the Endocrine Glands
2. Pituitary Neoplasms
3. Neoplasms of the Thyroid
4. Neoplasms of the Adrenal Cortex
5. Neoplasms of the Neuroendocrine System and
6. Neoplasms of the Gastroenteropancreatic system
7. Endocrine System
8. Neoplasms of the Female Reproductive Organs
 1. Neoplasms of the Vulva and Vagina
 2. Neoplasms of the Cervix
 3. Endometrial Cancer
 4. Neoplasms of the Fallopian Tube
 5. Ovarian Cancer
 6. Gestational Trophoblastic Disease
9. Neoplasms of the Breast
10. Neoplasms of the Skin
11. Malignant Melanoma
12. Neoplasms of the Bone and Soft Tissue
13. Bone Tumors & Sarcomas of Non-osseous Tissues
14. Neoplasms of the Genitourinary Tract



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15. Renal Cell Carcinoma
16. Neoplasms of the Renal Pelvis and Ureter
17. Bladder Cancer
18. Neoplasms of the Prostate
19. Neoplasms of the Penis
20. Neoplasms of the Testis
21. Neoplasms in Aids
22. Neoplasms in Acquired Immunodeficiency Syndrome
23. Neoplasms of Unknown Primary Site



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Course mapping (CO-PO-PSO mapping)

Course code & name	Course outcomes	Program outcomes			Program specific outcomes									
		PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
MCHC523A Principle of Surgical Oncology – 2	CO1	3	1	2	3	1	2	2	1	3	3	2	2	2
	CO2	3	2	3	3	2		1		3	3	2	2	2
	CO3	3	1	2	1	1		2	2	3	2	3	3	2



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Course Specifications M.Ch Surgical Oncology

2022 onwards

Course Code: MCHC524A



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Course Specifications

Course Title	Cancer epidemiology, Prevention, Images, psycho-oncology, Rehabilitation, societal Oncology
Course Code	MCHC524A
Department	Surgical Oncology
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master the evidence based management of Cancer epidemiology, Prevention, Imaging, psycho-oncology, Rehabilitation, societal Oncology, neoplasms in childhood, complications of cancer treatment, Oncologic emergencies

Course Outcomes:

CO 1: Demonstrate comprehensive knowledge of Cancer epidemiology, Prevention, Imaging, psycho-oncology, Rehabilitation, societal Oncology, neoplasms in childhood, complications of cancer treatment, Oncologic emergencies

CO 2: Demonstrate comprehensive knowledge of conducting multidisciplinary tumor board, conducting trials and working with other specialties for treatment of cancers.

Course Content:

1. Cancer Epidemiology
2. Theory and Practice of Clinical Trials
3. Cancer Prevention
4. Prevention of Tobacco-Related Cancers
5. Nutrition in the Etiology and Prevention of Cancer
6. Chemo-prevention of Cancer
7. Cytokinetics
8. Drug Resistance and its Clinical Circumvention
9. Principles of Dose, Schedule, and Combination
10. Chemotherapy
11. Regional Chemotherapy
12. Animal Models in Developmental Therapeutics
13. In Vitro and In Vivo Predictive Tests
14. Pharmacology
15. Toxicology by Organ System
16. Principles of Imaging
 1. Imaging Cancer of Unknown Primary Site
 2. Imaging Neoplasms of the Head and Neck and Central Nervous System
 3. Imaging Neoplasms of the Thorax
 4. Imaging Neoplasms of the Abdomen and Pelvis
 5. Cross-Sectional Imaging of Musculoskeletal Neoplasms
 6. Imaging the Breast
 7. Ultrasound in Cancer Medicine
 8. Radionuclide Imaging in Cancer Medicine
 9. Perspectives in Imaging



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10. Interventional Radiology for the Cancer Patient

17. Principles of Psycho-Oncology

18. Principles of Cancer Rehabilitation Medicine
19. Principles of Societal Oncology
20. Ethical Aspects of Caring for Patients with Cancer
21. Legal Aspects of Cancer
22. The Government and Cancer Medicine
23. Clinical Oncology in a Changing Health Care Environment
24. Outcomes Assessment
25. Complications of Cancer and its Treatment
26. Management of Cancer Pain
27. Anorexia and Cachexia
28. Antiemetic Therapy
29. Neurologic Complications
30. Dermatologic Complications of
31. Cancer Chemotherapy
32. Skeletal Complications
33. Hematologic Complications and
34. Blood Bank Support
35. Coagulopathic Complications of Cancer
36. Urologic Complications
37. Cardiac Complications
38. Respiratory Complications
39. Liver Function and Hepatotoxicity in Cancer
40. Gastrointestinal Complications
41. Oral Complications
42. Gonadal Complications
43. Endocrine Complications
44. Secondary Cancers: Incidence,
45. Risk Factors, and Management
46. Oncologic Emergencies



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Course mapping (CO-PO-PSO mapping)

Course code & name	Course outcomes	Program outcomes			Program specific outcomes									
		PO 1	PO 2	PO 3	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
MCHC524A Cancer epidemiology, Prevention, Images, psycho-oncology, Rehabilitation, societal Oncology	CO1	3	3	3	1	2	3	3	3	2	1	3	3	3
	CO2	3	3	3		1	2	3	3	3		3	3	3



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Course Materials:**Molecular Biology**

1. Molecular Diagnosis of Cancer, COTTER.F.E.
2. Molecular Biology for Oncologists, YARNOLD. J.R. et al
3. Cancer Chemotherapy Handbook, BAQUIRANJ DELIA~
4. The Lymphomas, CANELLOS, G.P. et al
5. Chemotherapy source book, PERRY, M.C,
6. Leukemia, HENDERSON, E.S. et al
7. Cancer Medicine, HOLLAND, J. F. et al.
8. Atlas of clinical Haematology, BEGEMANN
9. Text book of Malignant Haematology, Degos.L et al
10. Clinical Haematology, ROCHARD Lee. et al
11. Clinical Oncology, ABELOFF et al
12. Important Advances in Oncology, .DEVITA, V.T.
13. Cancer Principles and Practice of Oncology, DEVITA, V. T. et al,
14. Decision Making in Oncology Evidence Based Management, .DJULBEGOVIC. B & SULLIVAN.
15. AJCC Cancer' Staging Manual (American Joint Committee on Cancer
16. Cancer Treatment, HALNAN E .K
17. Cancer' Treatment, HASKEL
18. Oncology for' Palliative Medicine, HOSKIN PETER & MAKING WENDY)
19. Regional Therapy of Advanced Cancer, RUBIN, J.T
20. MAGRATH, I. The Non-Hodgkin's Lymphoma,
21. Comprehensive Text book of Oncology, Vol 1-2, .MOSSA, A.R
22. Oxford textbook of Oncology PECKHAM, M. et al I
23. A Multi-disciplinary Approach for Physicians and Students, RUBIN Clinical Oncology.
24. Atlas of Diagnostic oncology, SKARIN, A.T
25. Basic Science of Oncology, TANNOCK, E.I
26. Pediatric oncology, Philip LANSZOWSKY
27. Comprehensive text book of Thoracic Oncology, AISNER J. at al
28. Pediatric Surgical Oncology, ANDRASSY, R.J.
29. Breast.: Comprehensive management. of Benign and Malignant. Diseases, BLAND
30. Gleenn's Thoracic and Cardiovascular Surgery, Baue, A.E et al
31. Surgery of Childhood Tumors, CARACHI. R. et. al
32. Cancer of the Colon, Rectum and Anus, COHEN, A .M.
33. Atlas of Surgical oncology, DALY, J.M. & CADY, B
34. Cancer of the Prostate, DAS.S. & CRAWFORD, E.D.
35. Prostate Cancer, ERNSTOFF, M.S. et. al
36. Bone Marrow Transplantation, FORMAN, S.J.
37. Minimal Access Surgery in Oncology, GERAGHTY, J.G. et. al
38. Clinical Management of Bladder Cancer, HALL, R.R 1999 (Acc.No. 3667)
39. Soft tissue tumours, HARMS D & SCHODT.D
40. Cancer Surgery, HARVEY, J.C. & BEATTIE, E.J
41. Testicular cancer : investigation & management, HORWICH, A
42. Bone tumors : Diagnosis, treatment and Prognosis, HUVOS, ANDREW G
43. Reconstructive Plastic Surgery for Cancer-, KROLL, S. S.
44. Bailey & Love's Short practice of Surgery, Manri, C.V f\ Russel R. C.G
45. Surgical Emergencies, MONSON, J. et al
46. Gastric Cancer, NISHI, M
47. Superficial Bladder Cancer, PAGANO.F. et al
48. Carcinoma of the Kidney Testis and rare Urologic Malignancies, PETROVICH, Z. et al
49. Breast Cancer, ROSES, D.F

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50. Breast Cancer, SINGLRYSTY.D.E
51. Atlas of Esophageal Surgery, SKINNER.D.B.
52. Surgery of the Breast Principles and Art, SPEAR.S.L.et al
53. Gastric Cancer, SUGIMOTO JRAJ T & SASAKI.M.
54. Colorectal Cancer, WILLIAMS.N.S.
55. Campbell's Urology, WALSH. et al
56. Soft tissue, WEISS, S.W. & BROOKS, J.S.J.
57. Urological Oncology WAXMAN J WILLIAMS.
58. Prevention and Early Detection of Colorectal Cancer, YOUNG.G.P.et al
59. Maingot's Abdominal Operation, ZINNER M.J.

Anesthesiology

1. Pharmacology and Physiology in Anesthetic Practice, STOELTING, R.K.
2. Anaesthesiology : Problem-oriented Patient. Management, YAO, F. S .F

Head & Neck Oncology

1. Essentials of Head & Neck Oncology, CLOSE. L.G.
2. Head & Neck Cancer: A Multidisciplinary Approach, HARRISON.L.B.
3. Complications in Head & Neck surgery, OSSOFF.R.H.
4. An Atlas of Head & Neck surgery, LORE, J, M.
5. Management of Head & Neck Cancer: Multidisciplinary Approach. MILLION. C.R
6. Colour atlas of Head & Neck surgery Face. Skull & Neck, SHAH. J.P
7. Colour atlas of operative technology in Head and Neck Surgery, Parotid.
8. Soft tissue and reconstructive surgery, SHAH. J. P
9. Surgery for cancer of the larynx and related structures, SILVER E.E
10. Multimodality Therapy for Head and Neck Cancer, SNOKS. G.B.
11. Comprehensive Management of Head and Neck Tumors, THAWLEY.S.E et al
12. Basal & Squamous Cell skin Cancer of the Head and Neck, Weber., R. G. et. al

Oral Oncology

1. Burket's oral Medicine: Diagnosis and Treatment. LYNCH, M.A.
2. Malignant Tumours of the Mouth, Jaws and Salivary Glands LANGDONJ.1.D & HENK, J.M.
3. Cancer of the face and mouth Pathology and Management of Surgeons, MCGREGOR, I.A.& MCGREGOR, F.M.
4. Oral Oncology, (Proceedings of the 3rd International congress on oral cancer." VARMA, A.K.

Gynecologic Oncology

1. BEREKJ & HACKER, W .F Practical Gynaecologic Oncology.
2. Gynaecological Oncology :Guide to Clinical Management. , BLAKE PETER et al
3. Gynaecologic oncology: (Fundamental principles & clinical practice) COPPLEGON, M
4. New Developments in Cervical Cancer Screening and Prevention, FRANCO, E & MONSONECO, J
5. Principles and practice of gynecologic oncology, HOSKING, W.J et al
6. Ovarian Cancer : Controversies in Management., GERSHENSONJ.D.M. & MCQUIRE.W.P
7. Essentials of Gynaecologic Cancer, LAKITON, F et al
8. Epithelial Cancer of the Ovary, LAWTON, FRANK, G.et.al
9. Hand Book of Colposcopy, LUESELY,D.et a1
10. Cancer and Pre-Cancer of the Cervix, LUESLEY.D.M. & BARRASS.R
11. Gynaecologic Cancer Surgery, MORROW.C.P.et a1
12. Synopsis of Gynaecologic Oncology, MORROKI.C.P & CURTUN.J.P.
13. Multimodality Therapy in Gynecologic Oncology, SEVIN, B.U et al
14. Ovarian Cancer SHARP. F et al
15. Cancer of the Cervix SHINGLETON H.M & ORR. J .W.

Paediatric Oncology

1. Colour Atlas of Paediatric Haematology, HANN.I.M.
2. Manual of Paediatric Haematology and Oncology, LANZKOWSKY PHILIP.S.
3. Principles & Practice of Paediatric oncology, PIZZO.P.A & POPLACK

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Principal

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Journals

1. American Journal of Pediatrics
2. Acta Oncologica
3. Hematology/Oncology
4. British Journal of Cancer
5. Cancer
6. CA.A Cancer Journal for Clinicians
7. Cancer Detection & Prevention
8. Cancer Genetics and Cytogenetics
9. Cancer Journal (Scientific American) (NP)
10. Cancer Survey (NP)
11. Cancer Treatment Review
12. Clinical Oncology
13. Current Problem in Cancer
14. Current Opinion in Oncology
15. European Journal of Cancer
16. European Journal of Surgical Oncology
17. Genes, Chromosomes and Cancer
18. Gynecologic Oncology
19. Hematological Oncology
20. Hematology Oncology Clinics of North America
21. Indian Journal of Cancer (Indian)
22. Indian journal of Surgical Oncology
23. International Journal of Cancer (UICC)
24. International Journal of Gynecological
25. Cancer
26. International Journal of Radiation Oncology
27. Biology/Physics
28. Journal of Cancer Education (NP)
29. Journal of Clinical Oncology
30. Journal of National Cancer Institute (Gift)
31. Journal of Psycho social Oncology
32. Journal of Surgical Oncology
33. Medical & Pediatric Oncology
34. Nutrition and Cancer
35. Oncology (NP)
36. Psycho-Oncology
37. Radiotherapy & Oncology
38. Seminars in Oncology
39. Seminars in Oncology Nursing
40. Seminars in Radiation Oncology
41. Seminars in Surgical Oncology
42. Surgical Oncology Clinics of North America

ADDITIONAL READING

1. ICMR
2. National Cancer Grid/Registries
3. Up To Date
4. Clinical Key



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