



MGM SCHOOL OF BIOMEDICAL SCIENCES
(A constituent unit of MGM INSTITUTE OF HEALTH
SCIENCES)

(Deemed University u/s 3 of UGC Act 1956)
Grade "A" Accredited by NAAC
Sector 1, Kamothe, Navi Mumbai-410209,
Tel.No.:022-27437631,27437632,27432890
Email: sbsnm@mgmuhs.com/Website: www.mgmsbsnm.edu.in

CHOICE BASED CREDIT SYSTEM (CBCS)

With effect from Academic Year 2021 – 22

Curriculum for

M.Sc. Medical Dialysis Technology

Program Outcome:

- Nurture the scientific and/or clinical knowledge and skills for development of health care practices, industrial/ community applications and entrepreneurship.
- Develop the ability of critical thinking to analyze, interpret problems in health care and to find out systematic approach for solution
- Impart decision making capability for handling various circumstances in their respective areas
- Demonstrate research skills for planning, designing, implementation and effective utilization of research findings for community.
- Develop an ability to function as an efficient leader as well a team player in multidisciplinary sectors for effective outcomes demonstrating managerial skills
- Demonstrate an effective written and oral communication skills to communicate effectively in health care sector, industries, academia and research.
- Inculcate code of ethics in professional and social circumstances to execute them in daily practices and research in respective areas of specialization
- Develop lifelong learning attitude and values for enhancement of professional and social skills for an overall development

Program Specific Outcome:

- The primary goal of the Master of Science in Medical Dialysis Technology program is to prepare accomplished professionals in Dialysis Technology with a specific emphasis on clinical skills and technical knowledge along with professional research.
- Students will acquire the research-based knowledge and procedural skills necessary to deliver a highstandard of care to the patients with chronic kidney disease requiring renal replacement therapy.
- This course involves all aspects of care for patients undergoing chronic hemodialysis.
- Overall goal of this training is to foster the student's development into an independent care provider and researcher in the field of dialysis.
- The program intends for its post graduates to contribute to a new generation of academic dialysis professional equipped to address the challenging problems in renal replacement therapy

Course Outcome

Anatomy (Nephroanatomy & Histology) MMDT 101 L	<ul style="list-style-type: none"> • Apply to clinical scenarios the concepts and knowledge of the general terminology, cell structure and function, histology, gross anatomy, and physiology of urinary system. • Students will be able to describe and analyze tissue types and organ structure & know the topics of fundamental anatomy and histology. • Students will know and be able to describe the urinary system of the human body, will be able to describe their structure, location, will be able to explain the main regularities of functions.
Physiology (Nephrophysiology) MMDT 102	<ul style="list-style-type: none"> • To understand the functions of important physiological systems including the urinary systems. • Students will acquire knowledge on physiology related to Nephrology & physiology applied to dialysis.
Nephrogenetics & Pharmacology MMDT 103 L	<ul style="list-style-type: none"> • This course gives a general knowledge and application part of the drugs or medicines used for renal problems. • Knowledge of renal, cardio vascular, respiratory, Central Nervous System & corticosteroids to be able to manage renal patients under supervision of a nephrologists and assist a nephrologists.
Water Treatment MMDT 104 L	<ul style="list-style-type: none"> • Different types of water source and methods of treatment employed by water supply companies. • Ground sources and surface sources and the classification of contaminants. • Potable water regulations. • Necessity to treat potable water for use in dialysis. • Need for chemical limits. • Evaluation of feed water quality, including hardness. • Monitoring & disinfection of water treatment

Aetio-Pathology of Renal Disease MMDT 106 L	<ul style="list-style-type: none"> • The scope of this course is to provide overall information of the pathology, structural abnormalities and symptoms of kidney diseases. • To have knowledge of common medications used in dialysis, its administration & side effects. • To know total patient care during dialysis & dietary management.
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Clinical Nephrology MMDT 107 L	<ul style="list-style-type: none"> • The students are provided with adequate knowledge of patient assessment in renal diseases. • The students are trained to apply knowledge of laboratory & imaging investigations for diagnosing renal diseases.
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Dialysis Equipment MMDT 108 L	<ul style="list-style-type: none"> • To understand the principle of working, construction, operation, uses, cleaning, handling, care, common trouble shooting, maintenance etc of the hemodialysis & peritoneal dialysis equipment • To conduct routine equipment management procedures including preventative maintenance, faultfinding, calibration and verifying of equipment prior to clinical use.
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Research Methodology & Biostatistics(Core Course) CC 001 L	Student will be able to understand develop statistical models, research designs with the understating of background theory of various commonly used statistical techniques as well as analysis interpretation & reporting of results and use of statistical software.
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CORE ELECTIVE COURSES

Basics of Clinical Skills Learning CEC 001 L	<ul style="list-style-type: none"> • After successful accomplishment of the course, the students would be able to Measure Vital Signs, do basic physical Examination of the patients, NG tube basics, Administration of Medicines • The students will learn about Asepsis, and the Cleanliness related to asepsis and on mobility of the patients
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Hospital Operation Management CEC 002 L	<ul style="list-style-type: none">• Understand and apply resource management concepts (personnel, finance, and material resources) and the processes and strategies needed in specific hospital sectors• Communicate effectively and develop their leadership and teambuilding abilities• Apply modern change management and innovation management concepts to optimize structures• Analyze existing hospital service policies and enhance their alignment within the local and national context
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Director
MGM School of Biomedical Science
Kamothe, Navi Mumbai

