



## **MGM INSTITUTE OF HEALTH SCIENCES**

**Accredited by NAAC with 'A' Grade**

(Deemed University u/s 3 of UGC Act, 1956)

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# **CHOICE BASED CREDIT SYSTEM (CBCS)**

**(With effect from 2018-19 Batches)**

## **Curriculum for Masters in Public Health**

**Dr. Rajesh B. Goel**  
Registrar

MGM Institute of Health Sciences  
(Deemed University u/s 3 of UGC Act, 1956)  
Navi Mumbai-410 209

**Dr. Shashank D. Dalvi**  
Vice Chancellor  
MGM Institute of Health Sciences  
Navi Mumbai - 410209

Approved in BOM – 55/2018, Resolution No. 4.17, dated 27/11/2018 and amended upto BOM-  
57/2019, Dated 26/04/2019

OUTLINE OF COURSE CURRICULUM														
Master in Public Health (MPH)														
Semester I														
Code No.	Core Subjects	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total hrs.	Internal Assessment	Semester Exam	Total
<b>Theory</b>														
MPH 101 L	Concept of Public Health & Basic Epidemiology	4	-	-	-	4	60	-	-	-	60	20	80	100
MPH 102 L	Introduction to Demography & Basic Biostatistics	4	-	-	-	4	60	-	-	-	60	20	80	100
MPH 103 L	Introduction to Health System, Policy and Programs	4	-	-	-	4	60	-	-	-	60	20	80	100
MPH 104 L	Introduction to Health Economics	4	-	-	-	4	60	-	-	-	60	20	80	100
MPH 105 L	Practice of Public Health (Basic)	-	-	-	24	8	-	-	-	360	360	50	-	50
<b>Total</b>		<b>16</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>24</b>	<b>240</b>	<b>0</b>	<b>0</b>	<b>360</b>	<b>600</b>	<b>130</b>	<b>320</b>	<b>450</b>

OUTLINE OF COURSE CURRICULUM														
Master in Public Health (MPH)														
Semester II														
Code No.	Core Subjects	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total hrs.	Internal Assessment	Semester Exam	Total
<b>Theory</b>														
MPH 106 L	Health Management: Principles and Practices	4	-	-	-	4	60	-	-	-	60	20	80	100
MPH 107 L	Reproductive, Maternal Health, Child Health and Adolescent Health	3	-	-	-	3	45	-	-	-	45	20	80	100
MPH 108 L	Communicable and Non-Communicable Diseases & Nutrition	3	-	-	-	3	45	-	-	-	45	20	80	100
MPH 109 L	Practice of Public Health (Advanced) – Rural Outreach	-	-	-	24	8	-	-	-	360	360	50	-	50
CC 001 L	Research Methodology & Biostatistics (Core Course)	4	-	-	-	4	60	-	-	-	60	20	80	100
<b>Practical</b>														
CC 001 P	Research Methodology & Biostatistics (Core Course)	-	-	4	-	2	-	-	60	-	60	10	40	50
<b>Total</b>		<b>14</b>	<b>0</b>	<b>4</b>	<b>24</b>	<b>24</b>	<b>210</b>	<b>0</b>	<b>60</b>	<b>360</b>	<b>630</b>	<b>140</b>	<b>360</b>	<b>500</b>

OUTLINE OF COURSE CURRICULUM														
Master in Public Health (MPH)														
Semester III														
Code No.	Core Subjects	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total hrs.	Internal Assessment	Semester Exam	Total
<b>Theory</b>														
MPH 110 L	Environment and Occupational Health and Public Health Laws	4	-	-	-	4	60	-	-	-	60	20	80	100
MPH 111 L	Introduction to Financial Management and Budgeting	3	-	-	-	3	45	-	-	-	45	20	80	100
MPH 112 L	Medical Sociology and Effective Communication in Health Care	3	-	-	-	3	45	-	-	-	45	20	80	100
MPH 113 L	Practice of Public Health (Advanced) – Urban Outreach	-	-	-	18	6	-	-	-	270	270	50	-	50
MPH 114	Internship/Dissertation / Project*	10	-	-	-	5	-	-	-	-	-	50	-	50
<b>Core Elective Course</b>														
CEC 001 L	Advanced Epidemiology & Biostatistics	3	-	-	-	3	45	-	-	-	45	100	-	100
CEC 002 L	Health Systems, Policy, Planning and Programme Management													
<b>Total</b>		<b>23</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>28</b>	<b>255</b>	<b>0</b>	<b>0</b>	<b>270</b>	<b>525</b>	<b>280</b>	<b>240</b>	<b>600</b>

OUTLINE OF COURSE CURRICULUM														
Master in Public Health (MPH)														
Semester IV														
Code No.	Core Subjects	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation	Total hrs.	Internal Assessment	Semester Exam	Total
<b>General Electives</b>														
GE 001 L	Pursuit of Inner self Excellence(POISE)													
GE 002 L	Bioethics, Biosafety, IPR and Technology Transfer	4	-	-	-	4	60	-	-	-	60	20	80	100
GE 003 L	Disaster Management and Mitigation Resources													
GE 004 L	Human Rights													
<b>Practicals</b>														
MPH 115	Dissertation / Project*	-	-	-	36	18	-	-	-	-	540	-	200	200
<b>Total</b>		<b>4</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>22</b>	<b>60</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>600</b>	<b>20</b>	<b>280</b>	<b>300</b>

**DIRECTOR'S MESSAGE**

Dear Students,

Greetings!!!!

I take this opportunity to welcome you on behalf of MGM family to the Masters Degree at MGM School of Biomedical Sciences (MGM SBS).

MGM School of Biomedical Sciences (MGM SBS) established in the year 2007, the MGM School of Biomedical Sciences envisaged building a progressive learning community and is committed to pursuit of excellence in higher education, total development of personality and shaping the students into sensitive, self-reliant citizens of the country imbued with the ideals of secularism and a scientific aptitude. We set global standards to make our students scientifically as well as ethically stronger. The college adopts the national qualification framework for the post-graduate programs which has adopted Credit Base Choice System (CBCS) so that, we construct a value based system of education that encourages critical thinking and creativity, a research platform as opposed to rote learning.

The P.G (M.Sc.) courses offered are; Medical Anatomy, Medical Physiology, Medical Biochemistry, Medical Microbiology, Medical Pharmacology, Biotechnology, Genetics, Molecular Biology, Masters in Hospital administration and Biostatistics, M.Sc. Cardiac care technology, M.Sc. Medical Radiology and Imaging Technology, M. Optometry, MPH & M.Sc. Clinical Nutrition . Over time, the program has evolved, to meet the challenges of the ever changing field of biomedical education system.

With Best Wishes,

Director  
MGM School of Biomedical Sciences

## ABOUT MGM SCHOOL OF BIOMEDICAL SCIENCES

### **Mission**

To improve the quality of life, both at individual and community levels by imparting quality medical education to tomorrow's doctors and medical scientists and by advancing knowledge in all fields of health sciences through meaningful and ethical research.

### **Vision**

By the year 2020, MGM Institute of Health Sciences aims to be top-ranking Centre of Excellence in Medical Education and Research. Students graduating from the Institute will have the required skills to deliver quality health care to all sections of the society with compassion and benevolence, without prejudice or discrimination, at an affordable cost. As a research Centre, it shall focus on finding better, safer and affordable ways of diagnosing, treating and preventing diseases. In doing so, it will maintain the highest ethical standards.

### **About – School of Biomedical Sciences**

MGM School of Biomedical Sciences is formed under the aegis of MGMIHS with the vision of offering basic Allied Science and Medical courses for students who aspire to pursue their career in the Allied Health Sciences, teaching as well as research.

School of Biomedical Sciences is dedicated to the providing the highest quality education in basic medical sciences by offering a dynamic study environment with well-equipped labs. The school encompasses 21 courses each with its own distinct, specialized body of knowledge and skill. This includes 7 UG courses and 14 PG courses. The college at its growing years started with mere 100 students has recorded exponential growth and is now a full-fledged educational and research institution with the student strength reaching approximately 581 at present.

Our consistent theme throughout is to encourage students to become engaged, be active learners and to promote medical research so that ultimately they acquire knowledge, skills, and understanding so as to provide well qualified and trained professionals in Allied Health Sciences to improve the quality of life.

As there is increased need to deliver high quality, timely and easily accessible patient care system the collaborative efforts among physicians, nurses and allied health providers become ever more essential for an effective patient care. Thus the role of allied health professionals in ever-evolving medical system is very important in providing high-quality patient care.

Last but by no means least, School of Biomedical Sciences envisions to continuously grow and reform. Reforms are essential to any growing institution as it fulfills our bold aspirations of providing the best for the students, for us to serve long into the future and to get ourselves updated to changing and evolving trends in the health care systems

**Name of the Degree: Master in Public Health (MPH)**

### **Duration of Study:**

The duration of the study for Master in Public Health (MPH) will be of 2 years.

**Program pattern:**

- First Semester: July
- Second Semester: January
- Third Semester: July
- Fourth Semester: January

**Eligibility Criteria:**

Graduates in Medicine / AYUSH / Dentistry / Veterinary Sciences / Allied Health Sciences / Life Sciences, Statistics / Biostatistics / Demography / Population Studies / Nutrition / Sociology / Psychology / Anthropology / Social Work from a recognized University, with minimum 50% marks in qualifying examination will be eligible for admission.

The candidates having demonstrated experience in healthcare related field will be given preference

**Medium of Instruction:**

English shall be the Medium of Instruction for all the Subjects of study and for examinations.

**For any query visit the website: [www.mgmsbsnm.edu.in](http://www.mgmsbsnm.edu.in)**

**Programme Outcome:**

**The course will help candidate to develop skills in the following areas:**

1. Analytical and assessment skills for collecting and interpreting information
2. Policy planning and development skills to address public health challenges
3. Communication skills for advocacy, dissemination and evaluation of public health data and information
4. Financial planning and management skills for running public health programs in the country
5. Leadership skills

**Programme Specific Outcome:**

1. Apply the course learning to the public health system and its challenges
2. Develop, implement and evaluate key public health policies
3. Develop and demonstrate competency in managing health systems at different levels
4. Develop competency in research

**FIRST YEAR**

**Master in Public Health (MPH)**

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Concept of Public Health &amp; Basic Epidemiology</b>
<b>Course Code</b>	<b>MPH 101 L</b>

### SEMESTER-I

Code No.	Core Subjects
<b>Theory</b>	
MPH 101 L	Concept of Public Health & Basic Epidemiology
MPH 102 L	Introduction to Demography & Basic Biostatistics
MPH 103 L	Introduction to Health System, Policy and Programs
MPH 104 L	Introduction to Health Economics
MPH 105 L	Practice of Public Health (Basic)

Sr. No.	Topics	No. of Hrs.
1	<b>Concept of Public Health &amp; Basic Epidemiology</b> <ul style="list-style-type: none"> <li>• Public Health - What it is?</li> <li>• Causation &amp; Prevention</li> <li>• Social determinants of Health</li> <li>• Environment and Health</li> <li>• Health equity</li> </ul>	<b>60</b>



	<ul style="list-style-type: none"> <li>• Public Health action</li> <li>• Introduction to Human Biology</li> <li>• History of Epidemiology</li> <li>• Measurements in Epidemiology</li> <li>• Incidence and prevalence</li> <li>• Causation and association</li> <li>• Measures of association</li> <li>• Cross sectional study design</li> <li>• Case control study design</li> <li>• Cohort study design</li> <li>• Randomized control trials</li> <li>• Introduction to confounding and bias</li> <li>• Screening tests - validity and reliability methods</li> <li>• Disease surveillance</li> <li>• Outbreak investigation</li> </ul>	
<b>Total</b>		<b>60 hrs</b>

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Introduction to Demography &amp; Basic Biostatistics</b>
<b>Course Code</b>	<b>MPH 102 L</b>

Sr. No.	Topics	No. of Hrs.
1	<b>Introduction to Demography &amp; Basic Biostatistics</b> <ul style="list-style-type: none"> <li>• Demography - What it is?</li> <li>• Demography Cycle</li> <li>• Factors affecting population</li> <li>• Measures of fertility and mortality</li> <li>• Standardisation methods</li> </ul>	<b>60</b>

	<ul style="list-style-type: none"> <li>• Population growth and projection, Census</li> <li>• Demographic transition</li> <li>• Implication of rapid population growth</li> <li>• Demographic dividend or disaster</li> <li>• Migration &amp; Urbanization</li> <li>• Concept of Life table</li> <li>• Biostatistics – Scope / Use</li> <li>• Types of variables</li> <li>• Scales of measurement</li> <li>• Measures of central tendency</li> <li>• Measures of dispersion</li> <li>• Types of distribution</li> <li>• Bayes theorem</li> <li>• Sampling and population distribution</li> <li>• Central limit theorem</li> <li>• Type1 and type 2 error and power calculation</li> <li>• P - value and 95% confidence Interval</li> <li>• Parametric and non-Parametric tests</li> <li>• How to choose the statistical test</li> <li>• Correlation</li> <li>• Basics of regression</li> <li>• Introduction to SPSS</li> </ul>	
<b>Total</b>		<b>60 hrs</b>

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Introduction to Health System, Policy and Programs</b>
<b>Course Code</b>	<b>MPH 103 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<b>Introduction to Health Systems, Policy &amp; Programme</b> <ul style="list-style-type: none"> <li>• Structure, components and characteristics of global health care system</li> <li>• Health infrastructure and health delivery system in India</li> <li>• Health care system and Health services</li> <li>• Introduction to health policy and health sector reforms</li> <li>• Basic theoretical approaches and concepts used in policy analysis</li> </ul>	<b>60</b>

	<ul style="list-style-type: none"> <li>• Understanding national health policies, including current trends</li> <li>• Contextual factors that influence to policy change</li> <li>• Changing global health policy environment</li> <li>• Public health legislation</li> <li>• Concepts underlying the design of health programs</li> <li>• Basic approaches to the design, analysis and interpretation of health programs</li> <li>• Framework to evaluate the effectiveness of health Programme implementation</li> <li>• Process, outcome and impact evaluation of Programme</li> <li>• National Health Programmes in India (including goals, objectives, purposes, organization, man power, sources, activities, roles and responsibilities)</li> </ul>	
<b>Total</b>		<b>60 Hrs</b>

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Introduction to Health Economics</b>
<b>Course Code</b>	<b>MPH 104 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<b>Introduction to Health Economics</b> <ul style="list-style-type: none"> <li>• Basic concepts in health economics</li> <li>• Micro and Macro economics</li> <li>• Determinants of demand, supply and costs of production</li> <li>• Concepts of efficiency, effectiveness, equity, elasticity of demand, costing, production, marginal cost analysis, and opportunity cost</li> <li>• Market model, market failure, and the roles and limitations of markets in health care</li> <li>• Measuring health outcomes</li> <li>• Universal health coverage and role of health care financing</li> <li>• Principles and application of economic evaluation in health care including Cost Benefit Analysis (CBA) and Cost-Effective Analysis (CEA)</li> </ul>	<b>60</b>

	<ul style="list-style-type: none"> <li>• Health Insurance</li> <li>• Health sector reforms</li> </ul>	
<b>Total</b>		<b>60 Hrs</b>

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Practice of Public Health (Basic)</b>
<b>Course Code</b>	<b>MPH 105 L</b>

Sr. No.	Topics	No. of Hrs.
1	<p><i>UNDER the Supervision of Community Medicine Faculty</i></p> <ul style="list-style-type: none"> <li>• Clinical Posting in Department of Community Medicine</li> <li>• Clinical Posting at Rural Health Centre</li> <li>• Clinical Posting at Urban Health Centre</li> </ul>	<b>360</b>
<b>Total</b>		<b>360 Hrs</b>



**FIRST YEAR**  
**Master in Public Health (MPH)**  
**SEMESTER-II**

Code No.	Core Subjects
<b>Theory</b>	
MPH 106 L	Health Management: Principles and Practices
MPH 107 L	Reproductive, Maternal Health, Child Health and Adolescent Health
MPH 108 L	Communicable and Non-Communicable Diseases & Nutrition
MPH 109 L	Practice of Public Health (Advanced) – Rural Outreach
CC 001 L	Research Methodology & Biostatistics (Core Course)
<b>Practical</b>	
CC 001 P	Research Methodology & Biostatistics ( Core Course)

Name of the Programme	Master in Public Health (MPH)
Name of the Programme	Master in Public Health (MPH)
Name of the Course	Health Management: Principles and Practices
Course Code	MPH 106 L

Sr. No.	Topics	No. of Hrs.
1	<p><b>Health management: Principles &amp; Practices</b></p> <ul style="list-style-type: none"> <li>• Basic knowledge of health care systems and the environment</li> <li>• in which health care managers and providers function</li> <li>• Health Programmes: planning, implementation, Monitoring and Evaluation</li> <li>• Components of strategic management</li> <li>• Behavioral aspects of governmental, faith based and other NGOs</li> <li>• Introduction to logistics and HR management</li> <li>• Quality: Importance in public health, measures to manage &amp; improve</li> <li>• Introduction to Operational Research</li> <li>• Risk management</li> <li>• Effective management of Health Management Information Systems (HMIS) and its application</li> <li>• Public Health Leadership</li> <li>• Concept of Organizational management</li> <li>• Components of organization: Purpose, Coordination, Division of labor and Hierarchy</li> <li>• Project management lifecycle</li> <li>• Setting common goals and objectives</li> <li>• Analytical thinking</li> <li>• Priority setting and resource allocation</li> <li>• Why organizations fail? learning from case stories</li> <li>• Effective communication in public health</li> <li>• Public speaking</li> <li>• Effective Communication: Verbal versus Non – verbal communication</li> <li>• Various forms of written communication</li> <li>• Evidence based advocacy</li> <li>• Consensus building</li> <li>• Using audio-visual aid in communication</li> <li>• Etiquettes and professionalism</li> </ul>	60
<b>Total</b>		<b>60 Hrs</b>

<b>Name of the Course</b>	<b>Reproductive, Maternal Health, Child Health and Adolescent Health</b>
<b>Course Code</b>	<b>MPH 107 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<p><b>Reproductive, Maternal Health, Child Health and Adolescent Health</b></p> <ul style="list-style-type: none"> <li>• Fundamentals of reproductive biology</li> <li>• Adolescent Sexual and Reproductive Health</li> <li>• Understanding Reproductive Health Policy</li> <li>• Family Welfare and Reproductive Health measures</li> <li>• Reproductive Health programs in India</li> <li>• Introduction to maternal, new-born and child health programs and their behavioural basis</li> <li>• Historical developments in MCH in India</li> <li>• Introduction to the RMNCH+A services – historical context, evolution, coverage and innovations</li> <li>• Various components of service delivery under RMNCH+A (including GoI programs)</li> <li>• Maternal, New-born and Child Health (MNCH) services in the country</li> <li>• Adolescent health</li> <li>• Role of gender in public health programs</li> <li>• Evolution of RCH services in the country – Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)</li> <li>• Innovations in service delivery</li> <li>• Framework for evaluation of services</li> <li>• Reproductive &amp; Perinatal Epidemiology</li> <li>• Prenatal and Infant Growth and Development</li> <li>• Issues in the Reduction of Maternal and Neonatal Mortality</li> <li>• Preventing peri-natal and infant mortality</li> <li>• Infectious Disease and Child Survival</li> <li>• Nutrition and Growth in Maternal and Child Health</li> <li>• Legislations and programs in MCH</li> <li>• Overview of population health approaches for adolescents</li> <li>• Adolescent Health and Development</li> <li>• The Social Context of Adolescent Health and Development</li> <li>• International Adolescent Health</li> <li>• Adolescent Health status in India</li> <li>• Adolescent Health Development - policy and systems</li> <li>• Health issues specific to adolescents: anaemia, teenage pregnancy, menstrual hygiene, obesity, mental health promotion and illness prevention, substance use prevention, violence, media etc.</li> <li>• Define concepts - Gender, vulnerable populations, gender equality and equity and emerging issues</li> <li>• Understand the difference between equity and equality</li> <li>• Understand different forms of social exclusion</li> <li>• Explain the difference between sex and gender and how these variables, combined with other forms of social exclusion impacts on health</li> </ul>	45



	<ul style="list-style-type: none"> <li>To increase understanding of the importance, benefits and urgency to identify and reduce barriers and address the needs of women and socially excluded groups, and promote their agency in the context of accessing health care and related information</li> <li>To increase understanding of the inter- sectionalism between gender and other types of social exclusion/inclusion and patients' experiences in accessing and utilizing health services and the impacts on uptake and utilization of services</li> <li>To increase understanding of the realities of discrimination from the grass root perspective</li> <li>To identify good practices in Gender and Social Inclusion (GSI) within India</li> <li>To become familiar with toolkits for including GSI in public health research, programs, policies and advocacy</li> </ul>	
<b>Total</b>		<b>45 hrs</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
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<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Communicable and Non-Communicable Diseases &amp; Nutrition</b>
<b>Course Code</b>	<b>MPH 108 L</b>

	<b>Communicable and Non-Communicable Diseases &amp; Nutrition</b>	
1	<ul style="list-style-type: none"> <li>Communicable disease epidemiology:</li> <li>Recognize the burden of communicable diseases (CD) affecting the population</li> <li>Examine factors contributing to the persistence of infectious diseases</li> <li>Understand reasons for emergence and re-emergence of infectious diseases</li> <li>Key concepts - Incubation periods, Epidemic patterns, Modes of transmission, Transmission dynamics. Measures of infectiousness Secondary attack rates</li> <li>Analyze the transmission dynamics of diseases and design appropriate control measures</li> <li>Apply basic infectious diseases epidemiological skills to address major emerging and re-emerging communicable diseases</li> <li>Surveillance: Case in point: Integrated Disease Surveillance Program (IDSP)</li> <li>Epidemiology of common communicable diseases like TB, Malaria, Leprosy, Polio, STIs, AIDS, Meningococcal meningitis, Hepatitis B, and Measles (mathematical models of infection dynamics, outbreak investigation and surveillance, schedules, adverse reactions, contraindications, vaccine efficacy, impact assessment)</li> <li>Live outbreak investigation</li> <li>Adverse Event Following Immunization (AEFI) investigation</li> </ul>	<b>45</b>

	<ul style="list-style-type: none"> <li>• Non-communicable diseases (NCD) epidemiology:</li> <li>• Describe and understand the epidemiology of NCDs - Cardiovascular diseases, Hypertension, Diabetes mellitus, Cancers, Mental health, Stroke, Burns/trauma/ accidents etc.</li> <li>• Comprehend the upstream and downstream determinants of NCDs</li> <li>• Understand the Individual approaches/or high-risk approaches and population based/ or public health approaches to prevent NCDs</li> <li>• Recognize the risk factor approach to prevent non-communicable diseases</li> <li>• Comprehend the Population based/public health approaches to prevention of common NCD risk factors (physical inactivity, tobacco and unhealthy diet)</li> <li>• Familiarize with the current projects on targeting the prevention of NCDs, including, innovations in prevention</li> <li>• How prevention of NCDs interlinks with Communicable diseases. How women and child health, health of the girl child links to prevention of NCDs</li> <li>• Recognize Economic burden of NCDs and benefits of prevention</li> <li>• Comprehend how sustainable development and prevention of NCDs go hand in hand</li> <li>• Comprehend the power of policy and role of environment in the prevention of NCDs</li> <li>• Population-based screening</li> <li>• Surveillance of cancers including cancer registry</li> <li>• Public Health Nutrition: Appreciate the basic concepts and principles of foods and nutrition relevant to human health</li> <li>• Summarize population based dietary and nutritional recommendations</li> <li>• Define the concept, purpose and scope of Public Health Nutrition</li> <li>• Understand the definition, utility and applications of epidemiology in nutritional sciences</li> <li>• Recognize the role of community nutrition in improving human health</li> <li>• Utilize suitable data and assessment methodologies to conduct community needs assessment</li> <li>• Recognize the pillars of a healthy community</li> <li>• Identify the most relevant nutrition concerns in the community at present and enlist strategies for their prevention and management (Adolescent, Women, Maternal and child under nutrition, nutrition transition, over-nutrition and chronic diseases)</li> <li>• Demonstrate an understanding of principles of nutrition education and enlist the steps of developing nutrition education programs</li> <li>• Demonstrate an understanding of project planning and management in nutrition programmes</li> <li>• Appreciate inter-sectoral nature of nutrition and food policy</li> <li>• Enlist the features of various ongoing nutrition programs</li> <li>• Under/over nutrition</li> </ul>	
<b>Total</b>		<b>45 hrs</b>

Name of the Programme

Master in Public Health (MPH)

<b>Name of the Course</b>	<b>Practice of Public Health (Advanced) – Rural Outreach</b>
<b>Course Code</b>	<b>MPH 109 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<p><i>UNDER the Supervision of Community Medicine Faculty</i></p> <ul style="list-style-type: none"> <li>Clinical Posting at Rural Health Centre</li> </ul>	360
<b>Total</b>		<b>360 hrs</b>

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Research Methodology &amp; Biostatistics (Core Course)</b>
<b>Course Code</b>	<b>CC 001 L</b>

<b>Teaching Objective</b>	The course is intended to give an overview of research and statistical models commonly used in medical and bio-medical sciences. The goal is to impart an intuitive understanding and working knowledge of research designs and statistical analysis. The strategy would be to simplify, analyse the treatment of statistical inference and to focus primarily on how to specify and interpret the outcome of research.
<b>Learning Outcomes</b>	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.

Sr. No.	Topics	No. of Hrs.
<b>A</b>	<b>Research Methodology:</b>	
1	Scientific Methods of Research: Definition of Research, Assumptions, Operations and Aims of Scientific Research. Research Process, Significance and Criteria of Good Research , Research Methods versus Methodology, Different Steps in Writing Report, Technique of Interpretation, Precaution in interpretation, Significance of Report Writing, Layout of the Research Report	5
2	Research Designs: Observational Studies: Descriptive, explanatory, and exploratory, Experimental Studies: Pre-test design, post-test design, Follow-up or longitudinal design, Cohort Studies, Case Control Studies, Cross sectional studies, Intervention studies, Panel Studies.	5
3	Sampling Designs: Census and Sample Survey, Implications of a Sample Design, Steps in Sampling Design Criteria of Selecting a Sampling Procedure, Characteristics of a Good Sample Design, Different Types of Sample Designs (Probability sampling and non probability sampling), How to Select a Random Sample?, Systematic sampling, Stratified sampling, Cluster sampling, Area sampling, Multi-stage sampling, Sampling with probability proportional to size, Sequential sampling.	5
4	Measurement in research: Measurement Scales, Sources of Error in Measurement, Tests of Sound Measurement, Technique of Developing Measurement Tools, Scaling Meaning of Scaling, Scale Classification Bases, Important Scaling Techniques, Scale Construction Techniques, Possible sources of error in measurement, Tests of sound measurement	5
5	Methods of Data Collection: Types of data, Collection of Primary Data, Observation Method, Interview Method, Collection of Primary Data	5
6	Sampling Fundamentals : Need and importance for Sampling, Central Limit Theorem, Sampling Theory, Concept of Standard Error, Estimation, Estimating the Population Mean Estimating Population Proportion, Sample Size and its Determination, Determination of Sample Size through the Approach Based on Precision Rate and Confidence Level.	5
<b>B</b>	<b>Biostatistics</b>	
7	Data Presentation: Types of numerical data: Nominal, Ordinal, Ranked, Discrete and continuous. Tables: Frequency distributions, Relative frequency, Graph: Bar charts, Histograms, Frequency polygons, one way scatter plots, Box plots, two way scatter plots, line graphs	3
8	Measures of Central Tendency and Dispersion: Mean, Median, Mode Range, Inter quartile range, variance and Standard Deviation, Coefficient of variation, grouped mean and grouped standard deviation (including merits and demerits).	3
9	Testing of Hypotheses: Definition, Basic Concepts, Procedure for Hypothesis Testing,	6

	Measuring the Power of a Hypothesis Test, Normal distribution, data transformation Important Parametric Tests, Hypothesis Testing of Means, Hypothesis Testing for Differences between Means, Hypothesis Testing for Comparing Two Related Samples, Hypothesis Testing of Proportions, Hypothesis Testing for Difference between Proportions, Hypothesis Testing for Comparing a Variance to Some Hypothesized Population Variance, Testing the Equality of Variances of Two Normal Populations.	
10	Chi-square Test: Chi-square as a Non-parametric Test, Conditions for the Application Chi-square test, Steps Involved in Applying Chi-square Test, Alternative Formula, Yates' Correction, and Coefficient by Contingency.	2
11	Measures of Relationship: Need and meaning, Correlation and Simple Regression Analysis	2
12	Analysis of Variance and Covariance: Analysis of Variance (ANOVA): Concept and technique of ANOVA, One-way ANOVA, Two-way ANOVA, ANOVA in Latin-Square Design Analysis of Co-variance (ANOCOVA), ANOCOVA Technique.	4
13	Nonparametric or Distribution-free Tests: Important Nonparametric or Distribution-free Test Sign test, Wilcoxon signed-Rank Test, Wilcoxon Rank Sum Test: Mann-Whitney U test KruskalWalli's test, Friedman's test, and Spearman Correlation test.	3
14	Vital Health Statistics: Measurement of Population: rate, crude rate, specific rate, Measurement of fertility: specific fertility rate, Total fertility rate, Reproduction rate, Gross Reproduction Rate, Net Reproduction Rate, Measures related to mortality: Crude Death Rate (CDR), Age-specific death Rate, Infant and child mortality rate, Measures related to morbidity.	4
15	Computer Application Use of Computer in data analysis and research, Use of Software and Statistical package. Introduction to SPSS. Importing data from excel, access, tab and comma separated files. Entering data, labelling a variable, coding and recoding a categorical and continuous variable. Converting data from string to numeric variables, sorting & filtering, merging, appending data sets. Frequencies, descriptive statistics, cross tabulations. Diagrammatic presentation include histogram, bar chart, pie chart, scatter diagram, box plot, line chart. Parametric test of Hypothesis-one sample, Independent and paired sample t test, one way ANOVA & post HOC test. Testing for normality, Chi-square test with measures of association. Pearson correlation. Non parametric test.	3
<b>Total</b>		<b>60 hrs</b>

### CC 001 P – Research Methodology & Biostatistics

Sr. No.	Topics	No. of Hrs
<b>A</b>	<b>Research Methodology</b>	
1	Sampling Designs	4
2	Measurement in research	5
3	Methods of Data Collection	3
4	Sampling Fundamentals	3
<b>B</b>	<b>Biostatistics</b>	

5	Data Presentation	4
6	Measures of Central Tendency and Dispersion	4
7	Testing of Hypotheses	12
8	Chi-square Test	2
9	Measures of Relationship	3
10	Analysis of Variance and Covariance	4
11	Nonparametric or Distribution-free Tests	4
12	Vital Health Statistics: Measurement of Population	6
13	Computer Application Using Statistical Software	6
<b>Total</b>		<b>60 hrs</b>

**SECOND YEAR****Master in Public Health (MPH)****SEMESTER-III**

<b>Code No.</b>	<b>Core Subjects</b>
<b>Theory</b>	
MPH 110 L	Environment and Occupational Health and Public Health Laws
MPH 111 L	Introduction to Financial Management and Budgeting
MPH 112 L	Medical Sociology & Effective Communication in Health Care
MPH 113	Practice of Public Health (Advanced) – Urban Outreach
MPH 114	Internship/Dissertation /Project*
<b>Core Elective courses</b>	
CEC 001 L	Advanced Epidemiology & Biostatistics
CEC 002 L	Health Systems, Policy, Planning and Programme Management

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Environment and Occupational Health and Public Health Laws</b>
<b>Course Code</b>	<b>MPH 110 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<p><b>Environment and Occupational Health &amp; Public Health Laws</b></p> <ul style="list-style-type: none"> <li>• Theories and history of environmental health</li> <li>• Environmental health policy and legal mechanisms in a national and international context</li> <li>• Ecosystems in various settings (linking the built environment, transport, housing and green space to human health)</li> <li>• Environmental pollution, waste disposal and treatment</li> <li>• Lifestyle and dietary effects on health, food safety and sanitation</li> <li>• Occupational Health: Hazards at workplace and work safety; Prevention of occupational hazards; Laws related to occupational health; Various government and other schemes for working population in India</li> <li>• Climate Change &amp; Health</li> <li>• Biomedical Waste Management</li> <li>• Management of environmental hazards, natural disasters</li> <li>• Central Pollution Control Board (CPCB) guidelines</li> <li>• Environmental health impact assessment</li> <li>• Public Health laws</li> <li>• Human rights in public health</li> <li>• Role of governments in managing health of people</li> <li>• Public health regulations in Indian context</li> <li>• Regulations during emergencies and outbreaks</li> <li>• Addressing newer challenges: Bioterrorism, conflicts and emerging infectious diseases</li> <li>• Public Health laws in global economy</li> <li>• Global health hazards and security</li> </ul>	<b>60</b>
<b>Total</b>		<b>60 Hrs</b>



<b>Name of the Course</b>	<b>Introduction to Financial Management and Budgeting</b>
<b>Course Code</b>	<b>MPH 111 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<b>Introduction to Financial Management and Budgeting</b> <ul style="list-style-type: none"> <li>• Introduction to financial management</li> <li>• Tools of financial analysis and planning in health care</li> <li>• Cash flow, accounts and balancing budgets</li> <li>• Cost and dividends for health outcomes</li> <li>• Effectiveness and efficiency</li> <li>• Sustainability of Health Programs</li> </ul>	45
<b>Total</b>		<b>45Hrs</b>

**Below is Currently Printed in Curriculum / Syllabus in AY 2018/19 CBCS patter for MPH – Semester III**

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Medical Sociology &amp; Effective Communication in Health Care</b>
<b>Course Code</b>	<b>MPH 112 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<b>Research Methodology &amp; Ethics in Public Health</b> <ul style="list-style-type: none"> <li>• Ethics in Public Health</li> <li>• Ethics in Research</li> <li>• Planning Research</li> <li>• Objectives of Research</li> <li>• Research design</li> <li>• Tools and Measurements in research</li> <li>• Sample size and sampling</li> <li>• Understanding and analysis of: Qualitative data and research,</li> <li>• Quantitative data and research, Mixed methods</li> <li>• Public health surveillance and research</li> <li>• Documentation of Research</li> </ul>	45
<b>Total</b>		<b>45Hrs</b>

**Following Correction approved in Resolution No. 3.2.3.7 in BOM 59/2019 dated 11/11/2019**

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
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<b>Name of the Course</b>	<b>Medical Sociology &amp; Effective Communication in Health Care</b>
<b>Course Code</b>	<b>MPH 112 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<p><b>Medical Sociology &amp; Effective Communication in Health Care</b></p> <ul style="list-style-type: none"> <li>• Introduction on sociological perspectives on health</li> <li>• Key concepts in sociology as applied to the study of health</li> <li>• Social and cultural processes impacting health status and access to health services</li> <li>• Introduction to behaviour change</li> <li>• Health and human behaviour</li> <li>• Implementing and managing social and behaviour change communication in public health: Information Education and Communication (IEC), Inter-Personal Communication (IPC), Behaviour Change Communication (BCC), Social Behaviour Change Communication (SBCC)</li> <li>• Human behaviour and communication, its role in public health problems and solutions</li> <li>• Public speaking</li> <li>• Verbal vs. Non-verbal communication</li> <li>• Various forms of written communication</li> <li>• Evidence based advocacy</li> <li>• Consensus building</li> <li>• Using audio visual aid in communication</li> <li>• Etiquettes and professionalism</li> </ul>	45
<b>Total</b>		<b>45 Hrs</b>

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Program</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Practical of Public Health (Advance) – Urban Outreach</b>
<b>Course Code</b>	<b>MPH 113 L</b>

<b>r. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<p><i>UNDER the Supervision of Community Medicine Faculty</i></p> <ul style="list-style-type: none"> <li>Clinical Posting at Urban Health Centre</li> </ul>	270
<b>Total</b>		<b>270hrs</b>

<b>Name of the Course</b>	<b>Internship/Dissertation / Project*</b>
<b>Course Code</b>	<b>MPH 114</b>

**Internship/Dissertation / Project\*:**

Two months' internship/Dissertation/Project will be undertaken by all the candidates with an aim to integrate learning and practice in an active public health organization. This can be undertaken at governmental or non-governmental public health organizations or program management units. That includes the candidate's role and support in assessing, monitoring, or conducting surveillance of health problems/services in a population; research on population-based health problems; developing and/or implementing policies and intervention strategies to meet public health needs. Overall it should contribute to the organization and should help in understanding public health management and coordination and gaining personal confidence and leadership experience. After the completion of 2 months of **Internship/Dissertation / Project\***, candidates will be expected to submit a brief summary of public health program/challenge dealt with and solution proposed/implemented by the candidate.

Candidates should submit their research project plan and preliminary time scale with their chosen topic for short term study at the end of this activity to their mentor to seek appropriate approvals before embarking on the full investigation and project.

**CORE ELECTIVE COURSES**

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Ne of the Course</b>	<b>Advanced Epidemiology &amp; Biostatistics</b>
<b>Course Code</b>	<b>CEC 001 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
	<p><b>Advanced Epidemiology &amp; Biostatistics</b></p> <ul style="list-style-type: none"> <li>• Outline of advanced Biostatistics</li> <li>• Principles of regression</li> <li>• Methods of regression</li> <li>• Linear regression</li> <li>• Logistic regression</li> <li>• Poisson regression</li> <li>• Cox proportional hazards regression</li> <li>• Regression diagnostics</li> <li>• Introduction to multilevel modelling</li> <li>• Introduction to data imputation</li> <li>• Choosing the best models</li> <li>• Outline of Advanced Epidemiology:</li> <li>• Directed acyclic graphs and conceptual framework</li> <li>• Confounding bias and methods to reduce confounding</li> <li>• Selection bias</li> <li>• Information bias</li> <li>• Measures of validity and reliability</li> <li>• Nested study designs</li> <li>• Advanced designs in clinical trials</li> <li>• Systematic reviews and meta-analysis overview</li> <li>• Epidemiology and management of Vector Borne Diseases</li> <li>• Health measures following disasters</li> <li>• Various public data sources: CRS, SRS, Census, NFHS, DLHS, HMIS, MCTS, etc.</li> <li>• Survey design and methods:</li> <li>• Pre survey formative research</li> <li>• Sampling and sample size calculations</li> <li>• Ethical issues in surveys</li> <li>• Tool development</li> <li>• Conduct of surveys</li> <li>• Quality control and assurance in surveys</li> <li>• Survey data analysis</li> <li>• Identify appropriate research designs for a range of questions in health</li> <li>• Describe the steps involved in planning and conducting a research project</li> <li>• Evaluate the strengths and weaknesses of various data collection methods</li> </ul>	<b>45</b>
<b>Total</b>		<b>45hrs</b>

<b>Name of the Programme</b>	<b>Master in Public Health (MPH)</b>
<b>Name of the Course</b>	<b>Health Systems, Policy, Planning and Programme Management</b>
<b>Course Code</b>	<b>CEC 002 L</b>

<b>Sr. No.</b>	<b>Topics</b>	<b>No. of Hrs.</b>
1	<p><b>Health Systems, Policy, Planning and Programme Management</b></p> <ul style="list-style-type: none"> <li>• Policy framework</li> <li>• Stake holders in policy making</li> <li>• Translating research in policy making</li> <li>• Effects of national and international affairs on health policy</li> <li>• Introduction to different national population, disease control, tobacco control, nutrition, maternal and child health policies</li> <li>• Short term versus long term policies</li> <li>• Design and evaluation of public health programs</li> <li>• Concepts underlying the design of health programs;</li> <li>• Concepts of Governance and Institutions</li> <li>• Critical appraisal of issues in health policy and financing</li> <li>• Theory explaining public health action, its evolution and application in health policy</li> <li>• Methods of assessing the health impact of different types of policy; national and global perspective</li> <li>• Assessing health impacts of different policies across sectors</li> <li>• Impact of health threats and interventions to counter health threats including crisis management</li> <li>• Role of Non-governmental Organizations (NGOs) in health care</li> <li>• Inter-sectoral coordination in health including Public Private Partnership</li> <li>• Advocacy and planning in health care</li> <li>• Strategy: various definitions</li> <li>• Major concepts and frameworks in strategic management: SWOT, experience curve, portfolio theory, value chain</li> <li>• Strategic thinking and decision making</li> <li>• Strategic planning: Environmental, scenario, implementation and evaluation</li> <li>• Sustainability</li> <li>• Innovations in public health</li> <li>• Health informatics, e-Health</li> <li>• Telemedicine, m-Health</li> <li>• Business modelling: preparing your own business model</li> <li>• Peer review of individual business model</li> <li>• History of operation research and seven stages of OR</li> <li>• Safety, Acceptability, Feasibility and Effectiveness (SAFE) in designing Public Health Interventions</li> <li>• Field interventions and field trials</li> <li>• Stage 1: Formulate/define organizational problem</li> <li>• Stage 2: Observe the system</li> <li>• Stage 3: Create a mathematical model of the problem</li> </ul>	45

	<ul style="list-style-type: none"><li>• Stage 4: Model validation and application to the problem</li><li>• Stage 5: Identification of a suitable alternative</li><li>• Stage 6: Results discussion and conclusion</li><li>• Stage 7: Implementation and evaluation of the recommendation</li></ul>	
<b>Total</b>		<b>45Hrs</b>

## SECOND YEAR

### Master in Public Health (MPH) SEMESTER-IV

Code No.	Core Subjects
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<b>Theory</b>	
GE 001 L	Pursuit of Inner Self Excellence (POISE)
GE 002 L	Bioethics, Biosafety, IPR & Technology transfer
GE 003 L	Disaster Management and Mitigation Resources
GE 004 L	Human Rights
<b>Practical</b>	
MPH 115	Dissertation/Project*

\*(a) **Dissertation / Project Course** commences in III Semester

**(Elective): Any one subject is to be chosen from the following** (Subjects offered may change from time to time depending on the availability of expertise)

\*\*Elective courses may or may not have practical and/or field work



Name of the Programme	<b>Master in Public Health (MPH)</b>
Course Code	<b>GE 001 L</b>
Name of the Course	<b>PURSUIT OF INNER SELF EXCELLENCE (POISE)</b>

<b>Course objective</b>	<ol style="list-style-type: none"> <li>1. To inculcate moral values in students – Self-Discipline, Time Management, Develop attitude of Service with humility, Empathy, Compassion, brotherhood, Respect for teachers, colleagues &amp; society members.</li> <li>2. Develop Effective means of communication &amp; presentation skills in students</li> <li>3. To develop wisdom in students for deciding their career based on their areas of interest and inner skills.</li> <li>4. Introduce techniques for Relaxation, Meditation &amp; Connecting with inner self.</li> <li>5. Rejuvenation Techniques which can be used by students to distress themselves</li> <li>6. To improve performance of students during various assignments, projects, elocutions, events, quiz, interviews.</li> </ol>
<b>Course outcomes</b>	<ol style="list-style-type: none"> <li>1. Students will become self-dependent, more decisive and develop intuitive ability for their study and career related matter.</li> <li>2. Students ability to present their ideas will be developed.</li> <li>3. Enhanced communication skills, public speaking &amp; improved Presentation ability.</li> <li>4. Students will be able to explore their inner potential and inner ability to become a successful researcher or technician &amp; hence become more focused.</li> <li>5. Students will observe significant reduction in stress level.</li> <li>6. With the development of personal attributes like Empathy, Compassion, Service, Love &amp; brotherhood, students will serve the society and industry in better way with teamwork and thus grow professionally.</li> </ol>

Unit No.	Topics	No. of Hrs.
1	<b>Spiritual Values for human excellence:</b> The value of human integration; Compassion, universal love and brotherhood (Universal Prayer); Heart based living; Silence and its values, Peace and non-violence in thought, word and deed; Ancient treasure of values - Shatsampatti, Patanjali'sAshtanga Yoga, Vedic education - The role of the Acharya, values drawn from various cultures and religious practices - Ubuntu, Buddhism, etc.; Why spirituality? Concept – significance; Thought culture	15
2	<b>Ways and Means:</b> Correlation between the values and the subjects; Different teaching techniques to impart value education; Introduction to Brighter Minds initiative; Principles of Communication; Inspiration from the lives of Masters for spiritual values - Role of the living Master	15
3	<b>Integrating spiritual values and life:</b> Relevance of VBSE (Value Based Spiritual Education) in contemporary life; Significant spiritual values; Spiritual destiny; Principles of Self-management; Designing destiny	15
4	<b>Experiencing through the heart for self-transformation (Heartfulness Meditation):</b> Who am I? Introduction to Relaxation; Why, what and how HFN Meditation?; Journal writing for Self-Observation ; Why, what and how HFN Rejuvenation (Cleaning)? ; Why, what and how HFN connect to Self (Prayer)?; Pursuit of inner self excellence ; Collective Consciousness-concept of <i>egregore effect</i> ;	15
<b>Total</b>		<b>60hrs</b>

Name of the Programme	<b>Master in Public Health (MPH)</b>
Course Code	<b>GE 002 L</b>
Name of the Course	<b>BIOETHICS, BIOSAFETY, IPR &amp; TECHNOLOGY TRANSFER</b>

<b>Course objective</b>	<p>The students will gain structural knowledge on:</p> <ol style="list-style-type: none"> <li>1. To list the routes of exposure for a pathogen to a human being.</li> <li>2. To demonstrate and assess the proper use of PPE, best practices, biological containment, and be prepared to safely conduct research</li> <li>3. To identify the role of the Biosafety Professional in Biomedical Research Laboratories</li> <li>4. To appreciate the importance of assertion in interpersonal communication and be introduced to some key assertion strategies</li> <li>5. To understand the interpersonal nature of giving feedback, receiving criticism and resolving conflicts.</li> <li>6. To establish attentive listening as an assertion strategy</li> </ol>
<b>Course outcomes</b>	<p>Students will learn to:</p> <ol style="list-style-type: none"> <li>1. Effectively manage the health and safety aspects of a biological laboratory.</li> <li>2. Give reliable, professional and informed advice and information to colleagues and managers.</li> <li>3. Help to ensure that their institution complies with relevant legislation, liaise effectively with enforcing authorities and be aware of the penalties for failing to comply.</li> <li>4. Build a context of understanding through communication.</li> <li>5. Mediate between other conflicting parties.</li> <li>6. Exhibit de-escalatory behaviors in situations of conflict.</li> <li>7. Demonstrate acknowledgment and validation of the feelings, opinions, and contributions of others.</li> </ol>

<b>Unit no.</b>	<b>Topics</b>	<b>No of Hrs</b>
1	<b>Ethics:</b> Benefits of Allied Health Sciences, ELSI of Bioscience, recombinant therapeutic products for human health care, genetic modifications and food consumption, release of genetically engineered organisms, applications of human genetic rDNA research, human embryonic stem cell research.	<b>15</b>
2	<b>Patenting:</b> Patent and Trademark, Bioscience products and processes, Intellectual property rights, Plant breeder's rights, trademarks, industrial designs, copyright biotechnology in developing countries. Biosafety and its implementation, <i>Quality control in Biotechnology.</i>	<b>15</b>
	<b>Introduction to quality assurance, accreditation &amp; SOP writing:</b> <b>Concept</b> of ISO standards and certification, National regulatory body for accreditation, Quality parameters, GMP & GLP, Standard operating procedures, Application of QA in field of genetics, Data management of clinical and testing laboratory.	<b>15</b>
3	<b>Funding Agencies</b> (Financing alternatives, VC funding, funding for Bioscience in India, Exstrategy, licensing strategies, valuation), support mechanisms for entrepreneurship (Bio-entrepreneurship efforts in India, difficulties in India experienced, organizations supporting growth, areas of scope, funding agencies in India, policy initiatives), Role of knowledge centers and R&D (knowledge centers like universities and research institutions, role of technology and up gradation)	<b>15</b>
<b>Total</b>		<b>60hrs</b>

Name of the Programme	<b>Master in Public Health (MPH)</b>
Course Code	<b>GE 003 L</b>
Name of the Course	<b>DISASTER MANAGEMENT AND MITIGATION RESOURCES</b>

<b>Course objective</b>	<p>The course will uplift about:</p> <ol style="list-style-type: none"> <li>1. Understand and appreciate the specific contributions of the Red Cross/Red Crescent movement to the practice and conceptual understanding of disaster management and humanitarian response and their significance in the current context.</li> <li>2. Recognize issues, debates and challenges arising from the nexus between paradigm of development and disasters.</li> <li>3. Critically evaluate disaster risk reduction and humanitarian response policy and practice from multiple perspectives.</li> <li>4. Respond to disaster risk reduction initiatives and disasters in an effective, humane and sustainable manner.</li> </ol>
<b>Course outcomes</b>	<p>At the successful completion of course, the student will gain:</p> <ol style="list-style-type: none"> <li>1. Knowledge and understanding of the disaster phenomenon, its different contextual aspects, impacts and public health consequences.</li> <li>2. Knowledge and understanding of the International Strategy for Disaster Reduction (UN-ISDR) and to increase skills and abilities for implementing the Disaster Risk Reduction (DRR) Strategy.</li> <li>3. Ensure skills and abilities to analyze potential effects of disasters and of the strategies and methods to deliver public health response to avert these effects.</li> </ol>

Unit no.	Topics	No of Hrs.
1	<b>Introduction:</b> Definition of Disaster, hazard, global and Indian scenario, general perspective, importance of study in human life, Direct and indirect effects of disasters, long term effects of disasters. Introduction to global warming and climate change.	08
2	<b>Natural Disaster and Manmade disasters:</b> Natural Disaster: Meaning and nature of natural disaster, Flood, Flash flood, drought, cloud burst, Earthquake, Landslides, Avalanches, Volcanic eruptions, Mudflow, Cyclone, Storm, Storm Surge, climate change, global warming, sea level rise, ozone depletion Manmade Disasters: Chemical, Industrial, Nuclear and Fire Hazards. Role of growing population and subsequent industrialization, urbanization and changing lifestyle of human beings in frequent occurrences of manmade disasters.	15
3	<b>Disaster Management, Policy and Administration:</b> Disaster management: meaning, concept, importance, objective of disaster management policy, disaster risks in India, Paradigm shift in disaster management. Policy and administration: Importance and principles of disaster management policies, command and co-ordination of in disaster management, rescue operations-how to start with and how to proceed in due course of time, study of flowchart showing the entire process.	12
4	<b>Financing Relief Measures:</b> Ways to raise finance for relief expenditure, role of government agencies and NGO's in this process, Legal aspects related to finance raising as well as overall management of disasters. Various NGO's and the works they have carried out in the past on the occurrence of various disasters, Ways to approach these teams. International relief aid agencies and their role in extreme events.	13
5	<b>Preventive and Mitigation Measures:</b> Pre-disaster, during disaster and post-disaster measures in some events in general structural mapping: Risk mapping, assessment and analysis, sea walls and embankments, Bio shield, shelters, early warning and communication Non-Structural Mitigation: Community based disaster preparedness, risk transfer and risk financing, capacity development and training, awareness and education, contingency plans. Do's and don'ts in case of disasters and effective implementation of relief aids.	12
<b>Total</b>		<b>60hrs</b>

Name of the Programme	<b>Master in Public Health (MPH)</b>
Course Code	<b>GE 004 L</b>
Name of the Course	<b>HUMAN RIGHTS</b>

<b>Course objective</b>	<p>Students will comprehend on:</p> <ol style="list-style-type: none"> <li>1. A branch of public international law, and relevant juridical mechanisms at global as well as regional levels,</li> <li>2. Human rights as an object of study in history, philosophy and the social sciences, as well as a practical reality in national and international politics.</li> <li>3. Different forms of promoting and implementing human rights, domestically as well as on the international level.</li> <li>4. The role of human rights in contemporary issues relating to terrorism, religion, ethnicity, gender and development.</li> <li>5. Scholarly values such as transparency, impartiality, clarity, reliance and the importance of sound reasoning and empirical inference.</li> </ol>
<b>Course outcomes</b>	<p>Student will be able to virtue:</p> <ol style="list-style-type: none"> <li>1. identify, contextualize and use information about the human rights situation in a given country</li> <li>2. critically appraise source material, including cases from human rights committees and tribunals and reports and summary records from treaty bodies</li> <li>3. analyze a country's situation or an international situation in terms of human rights and formulate human rights-based initiatives and policies</li> <li>4. Promote human rights through legal as well as non-legal means.</li> <li>5. Participate in legal, political and other debates involving human rights in a knowledgeable and constructive way</li> </ol>

<b>Unit no.</b>	<b>Topics</b>	<b>No. of Hrs</b>
1	<i>Background:</i> Introduction, Meaning, Nature and Scope, Development of Human Rights, Theories of Rights, Types of Rights	08
2	<i>Human rights at various level:</i> Human Rights at Global Level UNO, Human Rights – UDHR 1948 – UN Conventions on Human Rights: International Covenant on civil and Political Rights 1966, International Convent on Economic, Social and Cultural Right, Racial Discrimination - 1966 International, Instruments: U.N. Commission for Human Rights, European Convention on Human Rights.	15
3	<i>Human rights in India:</i> Development of Human Rights in India, Human Rights and the Constitution of India, Protection of Human Rights Act 1993- National Human Rights Commission, State Human Rights Commission, Composition Powers and Functions, National Commission for Minorities, SC/ST and Woman	12
4	<i>Human Rights Violations:</i> Human Rights Violations against Women, Human Rights Violations against Children, 35 Human Rights Violations against Minorities SC/ST and Trans-genders, Preventive Measures.	13
5	<i>Political issues:</i> Political Economic and Health Issues, Poverty, Unemployment, Corruption and Human Rights, Terrorism and Human Rights, Environment and Human Rights, Health and Human Rights	12
<b>Total</b>		<b>60hrs</b>



Name of the Programme	<b>Master in Public Health (MPH)</b>
Course Code	<b>MCCT 115</b>
Name of the Course	<b>DISSERTATION / PROJECT WORK*</b>

1. Dissertation work should be carried out as an individual Dissertation and actual bench work.
2. The students will carry independent project work under the supervision of the staff of PSM Department on an advanced topic assigned to him/her. Inhouse projects are encouraged.
3. Co guides from the other institutions may be allowed.
4. The Dissertation/Project/Internship work will begin from 3 rd. Semester and will continue through the 4th Semester.
5. The Dissertation report (also work book shall be presented at the time of presentation and viva voce) will be submitted at the end of the 4th Semester and evaluated.
6. Five copies of the project report shall be submitted to the Director, SBS.
7. For the conduct of the End Semester Examination and evaluation of dissertation work the University will appoint External Examiners.
8. Since the dissertation is by research, dissertation work carries a total of 200 marks and evaluation will be carried out by both internal and external evaluators.
9. The student has to defend his/her project work in a seminar which will be evaluated by an internal and external expert appointed by the University.
10. The assignment of marks for Project is as follows:
  - a. Continuous Internal Assessment, Novelty of the research project- 100 Marks
  - b. Project work book: 50 Marks
  - c. Viva-voce: 50 Marks
11. However, a student in 4th semester will have to opt for general elective course from other related disciplines in addition to his project work in the parent department.

**RULES AND REGULATION FOR EXAMINATION OF POST GRADUATE DEGREE COURSES UNDER SCHOOL OF BIOMEDICAL SCIENCES OFFERING CBCS PATTERN**

**1. Title of the courses offered :**

**Master in Public Health (MPH)**

**2. Duration of the course:**

Duration shall be for a period of two years for PG courses

**3. Medium of instruction:** The medium of instruction and examination shall be in English

**4. LETTER GRADES AND GRADE POINTS:**

MGMSBS has adopted the UGC recommended system of awarding grades and CGPA under Choice Based Credit Semester System for all the PG courses.

4.1 MGMSBS would be following the absolute grading system, where the marks are compounded to grades based on pre-determined class intervals.

4.2 The UGC recommended 10-point grading system with the following letter grades will be followed:

**Table 1: Grades and Grade Points:**

<b>Letter Grade</b>	<b>Grade Point</b>
O (Outstanding)	10
A+ ( Excellent)	9
A (Very Good)	8
B (Good)	7
C (Above Average)	6
F (Fail)/ RA (Reappear)	0
Ab ( Absent)	0
Not Completed (NC)	0
RC (<50% in attendance or in Internal Assessment)	

4.3 A student obtaining Grade RA shall be considered failed and will be required to reappear in the examination.

4.4 Candidates with NC grading are those detained in a course (s); while RC indicate student not fulfilling the minimum criteria for academic progress or less than 75% in attendance or less than 35% in internal assessments (IA). Registrations of such students for the respective courses shall be treated as cancelled. If the course

is a core course, the candidate has to re-register and repeat the course when it is offered next time.

## 5. CBCS Grading System - Marks Equivalence Table

5.1 Table 2: Grades and Grade Points

Letter Grade	Grade Point	% of Marks
O (Outstanding)	10	86-100
A+ (Excellent)	9	70-85
A (Very Good)	8	60 -69
B (Good)	7	55 -59
C (Above Average) – Pass for PGs	6	50- 54
F (Fail) )/ RA (Reappear)	0	Less than 50
Ab (Absent)	0	-
NC- not completed	0	-
RC- Repeat the Course	0	0

5.2 Table 3: Cumulative Grades and Grade Points

Letter Grade	Grade Point	CGPA
O (Outstanding)	10	9.01 - 10.00
A+ ( Excellent)	9	8.01 – 9.00
A (Very Good)	8	7.01 – 8.00
B (Good)	7	6.00 - 7.00
C (Above Average)	6	5.01 - 6.00

**6. Assessment of a Course:** Evaluation for a course shall be done on a continuous basis. Uniform procedure will be adopted under the CBCS to conduct continuous internal assessments (IA), followed by one end-semester university examination (ES) for each course.

6.1 For all category of courses offered (Theory, Practical, Discipline Specific Elective [DE]/ Lab [DL]; Generic Elective [GE] and Ability Enhancement Courses [AE]; Skills Enhancement Courses [SE] Theory or P (Practical) & RP( Research Project), assessment will comprise of Internal Assessment (IA) and the end–semester (ES) examination.

6.2 Courses in programs wherein Theory and Lab are assessed jointly (PG), the minimum passing head has to be 50% Grade in total including internal assessment. RA grade in any one of the components will amount to reappearing in both components. i.e. theory and practical.

6.3 Evaluation for a course with clinical rotation or clinical training or internship will be done on a continuous basis.

**7. Eligibility to appear for the end-semester examinations for a course includes:**

7.1 Candidates having  $\geq 75\%$  attendance and obtaining the minimum 35% in internal assessments in each course to qualify for appearing in the end-semester university examinations.

7.2 The students desirous of appearing for university examination shall submit the application form duly filled along with the prescribed examination fee.

7.3 Incomplete application forms or application forms submitted without prescribed fee or application form submitted after due date will be rejected and student shall not be allowed to appear for examination.

## **8. Passing Heads**

8.1 Courses where theory and practical are involved, the minimum passing head shall be 50% in total including the internal assessment.

8.2 Elective subjects – the minimum prescribed marks for a pass in elective subject should be 50%. The marks obtained in an elective subjects should be communicated to the university before the commencement of the university examination.

**9. Detention:** A student not meeting any of the above criteria maybe detained (NC) in that particular course for the semester. In the subsequent semester, such a candidate improve in all, including attendance and/or IA minimum to become eligible for the next end-semester examination.

The maximum duration for completing the course will be 4 years (minimum duration of course x 2) i.e. (2x2) =4 years for PG Courses, failing which his/her registration will be cancelled. Full fees of entire course of three or two years as the case may be liable to be paid by the students.

## **10. Carry over benefit:**

10.1 First year examination: A candidate who fails in any two main subjects of first semester shall be permitted to carry over those subjects to second semester. However, the candidate has to clear all over subject before being allowed to appear for last semester examination.

10.2 A candidate shall not be allowed to appear in the final semester examination unless the candidate has cleared all the previous semester examinations.

## **11. University End-Semester Examination (PG Programs)**

11.1 There will be one final university examination at the end of every semester.

- 11.2 A candidate must have minimum 75% attendance (Irrespective of the type of absence) in theory and practical in each subject to be eligible for appearing the University examination.
- 11.3 The principal /dean/ director shall send to the university a certificate of completion of required attendance and other requirements of the applicant as prescribed by the university, two weeks before the date of commencement of the written examination.
- 11.4 A candidate shall be eligible to sit for the examination only, if she / he has secured minimum 35% in internal assessment of that subject. The internal examinations will be conducted at college/ department level.
- 11.5 Notwithstanding – anything in any examination, a deficiency of attendance at lectures or practical maximum to the extent of 10% - may be condoned by the principal / dean /director.
- 11.6 If a candidate fails either in theory or in practical, he/ she have to re-appear for both.
- 11.7 There shall be no provision of re- evaluation of answer sheets. Candidates may Apply to the university following due procedure for recounting of theory marks in the Presence of the subject experts.
- 11.8 Internal assessments shall be submitted by the Head of the Department to the university Through the Director of MGMSBS at least two weeks before commencement of University theory examination.

**12. Supplementary examination:** There shall be no supplementary examination

### 13. Re-Verification

There shall be provision of retotaling of the answer sheets, candidate shall be permitted to apply for recounting/retotaling of theory papers within 8 days from the date of declaration of results.

### 14. Scheme of University Examination Theory for PG Program:

General structure / patterns for setting up question papers for Theory / Practical courses, their evaluation weightages for PG programs of MGMSBS are given in the following tables

#### 14.1 Marks scheme for the University exam:

Final theory marks will be 100 marks (80 marks University Theory exam + 20 Marks Internal assessment).

Question		Marks distribution	Marks allotted per section	Marks
Sec: A	SAQ	8/10 x 5 M = 40	40	80
Sec: B	LAQ	2/4 x 20 M = 40	40	
				Total = 80 M

**14.2 Practical University exam pattern: Total 40 marks with following breakup:**

Exercise	Description	Marks
Q No 1	Case Study/Statistical Problem	1 x20=20 M
Q No 2	Case Study/Statistical Problem	2x5M=10 M
Q No 3	VIVA	5 M
QNo 4	Journal	5 M
		Total = 40 M

**14.3 Practical to be conducted at respective departments and marks submitted jointly by the parent department to the university.**

**14.4 Breakup of theory IA calculation for 20 marks**

Internal exam (at department)	15 marks
Seminar	5 marks
	Total = 20 M

**Breakup of practical IA calculation:**

Internal exam (at department)	10 marks
Viva	5 marks
Journal	5 marks
	Total = 20 M
Note- 20 marks to be converted to 10 marks weightage for submission to the university	

**14.5 ASSESSMENT OF SEMMINAR FOR PG COURSE (50 Marks)**

Description	Marks
Submission of seminar report	25 M
Subject knowledge	5
Concept and Methodology	5
Presentation	5
VIVA	10 M
	Total = 50 M

**14.6 Dissertation:-**

14.6.1 MPH student should submit a suitable dissertation topic forwarded by the guide to the School of Biomedical Sciences by September in III semester of the course.

Following approval of ethics & scientific committee, work should be carried out.

14.6.2 Completed dissertation should be submitted in IV semester. (Dissertation submission date will be informed later)

**15. Dissertation Evaluation Guidelines for PG courses:**

The Dissertation allows the student to develop and display in-depth understanding of a theme in International Studies, as well as an in-depth understanding of the appropriate research tools, approaches and theories applicable to that theme. The dissertation should be based on a well-defined and clear research question of scholarly significance, and that the dissertation develops a theoretically and methodologically informed and evidence-based answer to that question.

Criteria for Evaluating a Dissertation:

**Criteria for Evaluating a Dissertation:**

**The assignment of marks for Project/Dissertation is as follows:**

**Part I- III semester**

Topic Selection, Review of Literature, Novelty of works-50 marks

**Part-II- IV semester**

- a. Continuous Internal Assessment, Novelty of research project - 100 Marks
- b. Dissertation/Project work book: 50 Marks
- c. Viva-Voce: 50 Marks

**16. Eligibility for award of degree**

16.1 A candidate shall have passed in all the subjects of 1<sup>st</sup>& 2<sup>nd</sup> to be eligible for award of Post Graduate degree.

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