

Regulation & Syllabus

MASTERS OF PUBLIC HEALTH (MPH)



2023

JSS Academy of Higher Education & Research

(Deemed to be University)

Accredited "A+" Grade by NAAC

Sri Shivarathreeswara Nagar, Mysuru - 570 015

MASTER OF PUBLIC HEALTH (MPH) PROGRAM

Vision: Our mission is to provide high quality education to empower and enable all students to apply their acquired competencies to be world class leaders; to transform health and wellbeing of people locally and globally.

The main goal of the **Master of Public Health** program is to create excellent public health professionals for planning, organizing, and delivering quality health care. The program offers one of the most widely recognized academic training and professional credentials for working in the field of public health. MPH caters to the increasing demand for public health graduates in National and International Public Health Organizations, public and private health research institutes, and Non-Governmental Organizations (NGOs). The current MPH program is tailored for career-oriented professionals with interests of re-specialization or advanced specialization in the field of public health. The curriculum has been adopted from the model curriculum handbook prepared by Ministry of Health and Family welfare (2017-18).

The Public Health Landscape in India

Despite significant achievements over the years, Public Health challenges continue to stretch the existing resources, both in India and in the world. The countries, across the globe, strive towards achieving the Millennium Development Goals, yet the agenda remains unfinished. With the commencement of Sustainable Development Goals (SDG) era, a renewed thrust is required to maintain and improve upon the progress achieved so far.

While old threats continue to challenge health systems, new issues and challenges have appeared, thereby overburdening the health systems. Countries have developed an increased ownership towards the need to create a healthier population. Across the world, governments and voluntary organizations have worked towards strengthening the health systems through multiple approaches. **The creation** of a dedicated Public Health Cadre has been identified as one of the important pre-requisites in this direction. Public Health professionals help in bridging the gap between the clinical and managerial aspects of the program implementation and provide techno-managerial inputs. Public Health Programs demand a special emphasis on the study of disease epidemiology, various determinants of health & emerging challenges in health, public policy making and program management.

The determinants of health reside both within and beyond the formal health sector. Public health, as defined by **Winslow**, is both an 'art' and a 'science'. Every discipline has its unique perspective of the world. We believe these perspectives from individual disciplines enrich public health. This course will be an attempt to prepare competent cadre of professionals who have a basic understanding of the various aspects of public health and are able to successfully apply this knowledge towards meeting public health challenges in Indian context.

Overall Course Objectives in terms of Skills, Competencies and Learning Outcomes:

The course will help candidate to develop skills in the following areas **(Psychomotor domain)**:

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

At the end of the 2-years program, the PH Post-graduates are expected to demonstrate the following **Broad Values (Affective domain)** in the context of Public Health:

1. Apply contemporary ideas to influence program organization and management, problem solving and critical thinking in public health domain
2. Undertake operational research in institutional and field settings
3. Work in socially, culturally and economically diverse populations by being attentive to needs of vulnerable and disadvantaged groups and be well versed with existing health systems
4. Demonstrate qualities of leadership and mentorship
5. Be an effective member of a multidisciplinary health team
6. Demonstrate ethics and accountability at all levels (professional, personal and social)
7. Practice professional excellence, scientific attitude and scholarship
8. Demonstrate social accountability and responsibility
9. Be open to lifelong learning

Specific to the course content, successful candidates are expected to demonstrate the following competencies in a Public Health setting **(Cognitive domain and Competencies)**:

1. Apply the course learning to the public health system and its challenges

- Demonstrate adequate knowledge and skills to a wide range of public health topics
- Critically conduct the situational analysis and develop action plan for identified public health issues
- Develop workforce for taking public health related responsibilities in defined geographical areas
- Develop an understanding of the epidemiological transitions of programs specific to each State within the country in order to prioritize public health challenges for policy making

2. Develop, implement and evaluate key public health policies:

- Develop a capacity to apply conceptual framework to understand policy processes in health care

- Understand roles of supply and demand in policy making in health care
- Develop an understanding to facilitate inter-sectoral coordination and public-private partnership
- Critically analyse resource allocation for competing public health interests across programs
- Formulate context appropriate policies and design programs to address public health challenges, effectively

3. Develop and demonstrate competency in managing health systems at different levels

- Identify immediate and long term health program goals at national, State and district levels
- Prioritize health issues in population
- Describe various managerial information systems and their application
- Describe program management plans in health
- Understand and apply core management principles for human resources in health
- Understand and apply program budgeting and economic evaluation
- Understand and apply quality assurance and improvement techniques in health care

4. Develop competency in research

- Understand and apply ethical principles in research, evaluation and dissemination
- Develop competence to critically evaluate existing information and identify gaps
- Formulate and test research hypotheses in real world scenario
- Translate research knowledge for evidence based policy making

Master of Public Health Career Options

The MPH degree will provide career opportunities for students as Program Manager, Project Coordinator, Epidemiologist, Research Assistants in the following institutions:

1. National, State and district government health organizations
2. National Health Mission
3. State Health Resource Centre
4. Non-Government Organizations (NGOs)
5. International Agencies including WHO, UNICEF, UNDP, JHPIEGO, BMGF etc.
6. Public Health Research Institutes
7. CSRs
8. Pharmaceutical companies

Scope of Master of Public Health

Public health is an exciting and emerging field of opportunity as the era has shifted from just treating a disease to controlling and preventing health problems in the community. Public health also fosters research activities aimed at promoting health and preventing health problems. The field of research not only serves the community, but also at the larger level, including global health issues, such as improving access to health care, control and prevention of communicable and

non-communicable **disease and** reducing environmental hazards. The field of public health also offers great personal fulfillment working towards improving people's health and wellbeing.

Given the interdisciplinary appeal of the field of public health, new graduates and mid-career professionals can opt for the program from any health-related field and with various education backgrounds, including **Bachelors of Public Health (BPH)**, Medical, Dental, AYUSH, Pharmacy, Physiotherapy, Nursing (BSc, MSc), Nutrition (MSc), Veterinary Sciences, Allied and Health Sciences, Life Sciences, Sociology (MA), Graduates in Statistics, Biostatistics, Demography, Population studies, Nutrition, Sociology, Psychology, Anthropology, Social Work. Other candidates shall be considered based upon overall aptitude and eligibility.

Demonstrated work experience in the related field is highly desirable.

Advance Courses after MPH

M. Phil
Ph.D
DrPh
Fellowships

COURSE DETAILS

1. Eligibility (any of the following)

Graduates in

- Medicine / AYUSH / Dentistry / Veterinary Sciences / Allied and Health Sciences/ Life Sciences/ Nursing/ Physiotherapy
- Statistics / Biostatistics/ Demography / Population Studies / Nutrition / Sociology/ Psychology/ Anthropology/ Social Work

Although, the eligibility criteria **make** a candidate eligible to apply for the course, an aptitude test (based upon relevant work experience, mathematics/ statistics knowledge, basic English knowledge) will be conducted before admitting the students.

Interested candidates not belonging to the above **criteria but** are graduates in some other discipline and have minimum 1-2 years of experience in a public health setting (Govt, NGO, CSR) can also be considered depending upon the overall aptitude of the candidate assessed by an entrance test conducted through MPH department.

2. Duration of the course: The total duration of the course is slated for 2 years (around 4 semesters) full time with internship and dissertation

3. Medium of Instruction: English

4. Attendance: Candidates shall have at least attended 75% of the total number of classes conducted in each semester for theory and practicals separately from the date of commencement to the last working day as notified in all the papers collectively.

5. Internal assessment:

Continuous Internal Assessment (CIA): The Continuous Internal Assessments may be in the form of a combination of periodical tests, assignments, seminar and % of attendance. Such schedule for CIA procedure will be displayed on the notice board in the beginning of the semester. The course teacher shall intimate the internal mark of the candidates and their attendance detail to the student through notice board. There shall be a minimum of two internal **assessments** (IA) in theory and practical examination per subject, across all subjects each semester. The average marks of the two IA examinations shall be submitted to JSSAHE&R at least 15 days before the commencement of the end semester examination. Candidates require a minimum of 40% marks **for being eligible for the semester exams**. Based on this detail and CBCS regulation, the Controller of Examinations will issue hall ticket (admit cards) for end semester examination, through HOD. During the fourth semester, CIAs of all semesters related to professionalism, values and communication shall be compiled from all the faculty and an average score shall be assigned.

Details of Sessional Assessment/ Internal Assessment for Sem I, II, III (25 marks)

Examination	Assessment	% Marks
Test	Average of best two test performance	40
Assignment (Field visit reports, etc)	Average of the submitted	20
Seminar	Presentation on a given topic (Average score)	20
Attendance	Per semester	20

The question paper for the test, topic of the assignments and seminar will be assigned by the respective course teacher. All tests will be conducted only on prior notice in the respective departments. The exact date and timing will be announced by the HOD at the start of the semester.

The internal marks for attendance is as follows:

80-85% of attendance	2 marks
85-90% of attendance	3 marks
90-95% of attendance	4 marks
95-100% of attendance	5 marks

Details of CIA for Semester IV for 75 marks:

Examination	Assessment	% Marks
Professionalism, Values, Communication, Achievements, Activities, Capstone project	Average of the conduct from four semesters as assessed by all faculties including place of internship	40
Assignment (Field visit reports, Resume building, Synopsis timelines etc)	Average of the submitted	20

Seminar, Mock Interview assessment	Presentation on a given topic (Average score)	20
Attendance	Per semester	20

Note: Paper presentations in conferences, publishing of articles, awards, performance in sports, extra-curricular activities, etc throughout the course will have weightage and will be recognized in IV semester as achievements enhancing report writing skills, soft skills, leadership and communication skills will be the key to achieve good marks during CIAs.

Semester Holidays: After the end of each semester, students shall have 15 days break between I semester and II semester and between III semester and IV semester.

Optional Internship: The students have an option to do 15 days summer internship related to Swachh Bharat Abhiyan during this period. Each 15 days of internship (100 hours) will be awarded 2 credits. The report of this Summer Internship will be submitted and presented along with compulsory internship during IV semester. The place of summer internship along with the organization should be discussed with the department and approved within two months of II semester.

6. Subject and Hours of teaching for theory and Practical

The curriculum is designed according to the model course curriculum prepared by Ministry of Health and Family Welfare and directed by UGC through its letter (https://www.ugc.ac.in/pdfnews/6933708_UGC-letter---MPH.pdf) dated 19th Sep 2018 - D.O No. F. 14-14/2018(CPP-II) - <https://mohfw.gov.in/documents/publications>

Curriculum is created with the basis of strengthening **Five CORE Competencies** as mentioned by **ASPPH**:

- i. Epidemiology
- ii. Biostatistics and Research methodology
- iii. Health Policy and management
- iv. Social and Behavioral Sciences
- v. Environmental health sciences

This is complemented by Interdisciplinary/ Cross- cutting competencies: -

- Communication and Informatics
- Diversity and Culture
- Leadership
- Professionalism
- Program Planning
- Public Health Biology
- Systems Thinking

The MPH course will comprise of 16 Core modules and 3 Elective Streams with 2-3 modules. More options will be created for elective streams on demand and need basis. Currently six elective streams comprising of 2-3 modules have been implemented in addition to 16 Core modules. A candidate needs to pass 16 Core (compulsory) modules, and three elective modules of the chosen streams to successfully complete the program.

A. Core modules (Compulsory for all)

- Principles and practice of Public Health
- Introduction to health system and policy in developing countries
- Health Management: Management Principles and practices
- Basic Epidemiology
- Basic Biostatistics
- Demography and population sciences
- Introduction to health economics
- Health promotions approaches, methods and evaluation
- Introduction to financial management and budgeting
- Social and behaviour change, effective communication in health care
- Reproductive, Maternal, Neonatal, Child Health and Adolescent Health (RMNCH+A)
- Public health nutrition, Gender and health
- Introduction to health program evaluation
- Principles of social research methods
- Environment and occupational health
- Law and ethics in public health

B. Elective streams: Electives should be chosen within two months of beginning the first semester and during the first month of second and third semester. Minimum of five students are required to conduct classes for a chosen elective stream.

Elective 1: Epidemiology

- i. Advanced Epidemiology
- ii. Infectious disease epidemiology
- iii. NCD epidemiology

Elective 2: Health system management

- i. Strategic management in health care and Health Entrepreneurship
- ii. Advanced Operational research

Elective 3: Biostatistics

- i. Advanced Biostatistics
- ii. Survey design and methods

Elective 4: Public Health Finance & Organizational management

- i. Advanced Financial management and budgeting
- ii. Organizational management and services

Elective 5: Effective advocacy, Communication & NGO role in health care

- i. Effective advocacy and communication in Public Health
- ii. Role of non-governmental organizations in health care

Elective 6: Health Policy, Programme and Planning

- i. Health policy, process and planning
- ii. Programme planning and evaluation of public health programs (including current NHPs)
- iii. Translating research into policy and health advocacy
- iv. Current issues in Health Policy: National and global perspective

Note: Depending on the request and future need, the following topics will be included in the elective stream: - Advanced Health Economics and Financing, Advanced Health Informatics, Demography and Population sciences, Advanced Envi-

ronmental and Occupational health, Global health security and International Policies, Advanced Health Promotions, Human Resources for Health etc.

C. Dissertation

D. Internship

Semester Distribution of Master's Program

Suggested calendar of activities			
(1 month ~ 120 teaching hours @ 6 hours per day* 5 days a week + Saturdays ~ 3 teaching hours * 4 weeks) 1 hour theory/week = 1 credit ; 2 hours practicals/week = 1 credit 1 hour theory/practical teaching: 3 hours of self directed study			
Semesters	Months	In/ out Campus	Approximate division of Teaching/practical hours
Semester 1	6 months	In campus classes	~ 600
Semester 2	6 months	In campus classes	~ 600
Semester 3	6 months	In campus classes	~ 600
Semester 4	4 months	Research, Submission and defense of dissertation	~ 480
	2 months	Internship	~ 240

Overview of activities in each semester

	Aug	Sep	Oct	Nov	Dec	Jan
Semester I	Induction	Elective Selection	Internal I	Dissertation topic and time-line approval	Internal II	Exam/ Semester Holiday
15 days semester break						
	Feb	Mar	Apr	May	Jun	Jul
Semester II	Elective Selection	Synopsis Submission with ethics committee approval	Internal I		Internal II	Exam/ Semester Holiday

15 days - Semester break Optional Swacch Bharath Internship (15 days - 2 Credits)						
Semester III	Aug	Sep	Oct	Nov	Dec	Jan
	Semester Holiday/ Elective Selection	Internship location finalization	Internal		Internal II	Exam/ Semester Holiday
15 days Semester break						
Semester IV	Feb	Mar	Apr	May	Jun	Jul
	Dissertation & Submission		Internship		Capstone Project and Exams	

Table: Distribution of Subjects and teaching hours according to Semesters

SEMESTER I							
Paper	Category	MODULES	Hours/ Week	CIA	Theory/ Prac- tical Exam	Maxi- mum Marks	Credits
Paper I	Core -1 Core -2 Core -3	Introduction to Public Health - Prin- ciples, Prac- tices, Health System, Demography & Population sciences and Health Policy	4	25	75	100	4
Paper II	Core -4	Basic Epide- miology	4	25	75	100	4
Paper III	Core -5	Basic Biosta- tistics	4	25	75	100	4
Paper IV	Core -6	Health Man- agement: Management Principles and Practic- es (Strategic (management	4	25	75	100	4
Elective I	Elective 1	Advanced Epi- demiology	4	25	75	100	4
	or						
	Elective 2	Health Sys- tern Manage- ment					

Practical I	Practical 1	Practicals	12	25	75	100	6
Total Credits for I Semester							26

SEMESTER 2

Paper	Category	MODULES	Hours/Week	CIA	Theory/ Practical Exam	Max Marks	Credits
Paper V	Core 7	Introduction to Health Economics	4	25	75	100	4
	Core 8	Introduction to Financial Management and Budgeting					
Paper VI	Core 9	Health Promotion Approaches and Methods	4	25	75	100	4
Paper VII	Core 10	Social and Behavior Change, Effective Communication in Health Care	4	25	75	100	4
Paper VIII	Core 11	Gender and Health & Public Health Nutrition	4	25	75	100	4
Elective II	Elective 3	Advanced Biostatistics	4	25	75	100	4
	Elective 4	Public Health Finance and Organizational Management					
Practical II	Practical 2	Practicals	12	25	75	100	6
Total Credits for II Semester							26

SEMESTER 3							
Paper	Category	MODULES	Hours/ Week	CIA	The- ory/ Prac- tical Exam	Max Marks	Credits
Paper IX	Core 12	RMNCH+A	4	25	75	100	4
Paper X	Core 13	Introduction to Health Pro-grams and evaluation	4		75	100	4
	Core 14	Principles of Social Research Methods					
Paper XI	Core 15	Law and Ethics in Public Health	4	25	75	100	4
Paper XII	Core 16	Environment and Occupa-tional Health	4		75	100	4
Elective III	Elective 5	Effective Advo-cacy, Commu-nication & NGO role in health-care	4	25	75	100	4
	or Elective 6	Health Policy, Programme and Planning					
Practical III	Practical 3	Practicals	12		75	100	6
Total Credits for III Semester							26

SEMESTER 4

Paper	Category	Hours/ Week	CIA	Theory/ Practical Exam	Max Marks	Credits
Practical IV	Dissertation submission and Research - Paper presentation & Capstone project	20	50	150	200	10
Practical V	Internship & Report submission assessment - Viva Voce	12	25	75	100	6
Total Credits for IV Semester						16

Summary of Credits	
Semester	Credits
Semester I	26
Semester II	26
Semester III	26
Semester IV	16
Total	94

Note: Students getting involved in Optional Internship during Semester Break will be awarded 2 credits depending upon the duration of Internship and report submitted during IV semester.

Importance of Professionalism, values and communication:

During orientation week, the candidate will be given an overview of professionalism, importance of professional values and communication including;

- Professional values- Integrity, objectivity, professional competence and confidentiality
- Core values- Accountability, Altruism, Compassion/ caring, excellence, integrity, professional duties, social responsibility
- Personal values- ethical or moral values
- Attitude and behaviour- professional behaviour, treating people equally
- Code of conduct, professional accountability and responsibility, misconduct
- Cultural issues in the healthcare environment
- Differences between the various healthcare professions and importance of team efforts
- Entry level health care practitioner, direct access, autonomy in profession, practitioner of medical practice and evidence based practice.

A continuous objective evaluation and feedback for the above-mentioned values and behaviors for four semesters shall be done. The average of the scores obtained during each semester for these shall be compiled during fourth semester exams.

General evaluation: Each semester will have theory exam and practical examination at the end of the semester and in addition the fourth semester will also be evaluated on the basis of the Dissertation and Internship work.

C. DISSERTATION

Candidates should submit their synopsis according to the standard guidelines of JSSAHER at the end of the first semester to their mentor/ tutor to seek appropriate approvals before embarking on the full investigation and project. Within the second month of the second semester, they will validate the data collection tool and start the data collection. At the end of third semester, they will complete the data collection. During the III semester, data analysis will be started. At the end of the two months of fourth semester, candidates will submit their dissertation on a previously chosen and approved topic for assessment. The soft copy shall be sent to the external examiner for evaluation. They will also submit the manuscript for publication by third month of fourth semester. This will be a 10-credit course. The dissertation will be evaluated by an internal examiner (60% weightage) and an external examiner (40% weightage) including a defense and viva-voce.

The dissertation should be written under the following headings:

- Abstract
- Introduction
- Objectives of Study
- Review of Literature
- Material and Methods
- Results - including tables & graphs
- Discussion
- Conclusion
- Recommendations
- Summary
- References
- Annexure: questionnaire, photos etc..

The written text of dissertation will be not less than 50 pages and will not exceed 150 pages excluding references and annexure. It should be neatly typed with double line spacing on one side of the bond paper (A4 size, 8.27" x 11.69") and bounded with the hard bind neatly. Spiral binding is not permitted. The dissertation will be certified by the guide and co-guide if any, Head of the Department and Head of the Institution. The dissertation will be valued by examiners appointed by the Deemed to be University.

A guide will be a full time Postgraduate teacher of a constituent college of JSS AHER and recognised as a guide by JSS AHER for supervision of dissertation work. Qualification of the guide will be Post MD Community Medicine/ MPH – 2 years of teaching experience + 2 Publications in indexed journals (First or Corresponding author) or 2 research projects as PI with a budget of minimum 1 lakh per project. A Co-Guide from other department should also have 2 years of teaching experience with two publications. A Co-Guide from School of Public Health should be a faculty and have taught atleast a semester.

Change of Guide: Guide may be changed with prior permission from the Deemed to be University.

Submission of Dissertation: Two copies of the dissertation duly certified by the Guide, Head of the Department and Head of Institute will be submitted to the Registrar (Evaluation), JSS AHER, through the Head of the Department at least three months before the Deemed to be University Examination of MPH Sem IV.

D. INTERNSHIP

A two months' internship program 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. The internship should include 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. Although finding a suitable internship opportunity lies with the candidate him/ herself, mentors will facilitate the process. After the completion of 2 months of internship, candidates will be expected to submit a summary of public health program/ challenge dealt with and solution proposed/ implemented by the candidate at the end of the semester. The internship is worth six (6) credits. Selecting the location, organization, structure of internship, with deliverables should

be discussed with relevant stakeholders and mentors and submitted in the second month of III semester. Monitoring of the candidate's performance and cross-checking attendance shall be done by both the guide/ mentor from MPH department and external supervisor where the internship is done.

MASTERS IN PUBLIC HEALTH COURSE CONTENTS

A. CORE MODULES (COMPULSORY)

1. Principles and practices of public health:

- Public Health- what it is; causation, prevention, social determinants of health, health systems and health policy
- Health equity
- Environments and health
- Public Health action

2. Health system and policy in developing countries:

- Basic theoretical approaches and concepts used in policy analysis
- Understanding of global and national health policies, including current trends
- Analyse the political system within which policies are made
- Contextual factors that influence to policy change
- Changing global health policy environment

3. Demography and population sciences:

- Factors affecting population
- Measures of fertility and mortality
- Standardization methods
- Population growth and projection
- Demographic transition
- Implication of rapid population growth
- Demographic dividend or disaster
- Life table
- Urbanization

4. Basic Epidemiology including communicable and non-communicable diseases:

- History of Epidemiology
- Measurements in Epidemiology
- Incidence and prevalence
- Causation and association
- Measures of association
- Outline of study designs (including cross sectional study design, case control study design, cohort study design and randomised control trials)
- Introduction to confounding and bias
- Screening tests- validity and reliability methods
- Disease surveillance
- Outbreak investigation
- Communicable and non-communicable diseases

5. Basic Biostatistics:

- Types of variables
- Scales of measurement
- Measures of central tendency
- Measures of dispersion
- Types of distribution
- Bayes theorem
- Sample/sampling and population distribution
- Central limit theorem
- Type I and Type II error and power calculation
- P-value and 95% confidence Interval
- Parametric and non-parametric test
- How to choose the statistical test
- Correlation
- Basics of regression
- One statistical software (SPSS/Stata)

6. Health management: Management principles and practices:

- Basic knowledge of health care systems and the environment in which health care managers and providers function
- Health Programmes: planning, implementation, Monitoring and Evaluation
- Components of strategic management
- Project management
- Behavioural aspects of governmental, faith based and other non - governmental organizations
- Introduction to logistics management
- Introduction to human resource management
- Quality: define quality, its importance in public health, measures to manage and improve quality
- Introduction to Operational Research
- Risk management
- Effective management of Health Management Information Systems (HMIS) and its application
- Public Health Leadership

7. Introduction to health economics:

- Key concepts of economics, micro and macro economics
- Strategizing and prioritizing within scarce resources (decision making)
- Determinants of demand, supply and costs of production
- Concepts of efficiency, effectiveness, equity, elasticity of demand, costing, production, marginal cost analysis, and opportunity cost
- Market model, market failure, and the roles and limitations of markets in health care
- Universal health coverage and role of health care financing
- Principles and application of economic evaluation in health care including Cost Benefit Analysis (CSA) and Cost-Effective Analysis (CEA)

8. Introduction to Financial management and Budgeting

- Introduction to financial management
- Tools of financial analysis and planning in health care
- Cash flow, accounts, and balancing budgets
- Cost and dividends for health outcomes

- Effectiveness and efficiency
- Sustainability of Health Programs

9. Health promotion approaches and methods:

- Introduction to health promotion
- Foundations for health promotion
- Social determinants and health promotion
- Communication strategies for health promotion
- Overview of current national health policies, national health programs their health promotion strategies
- Community need assessment for designing an effective health promotion activity.
- Evaluation of health promotion plans.
- Substance abuse epidemic in parts of India
- Smokeless (chewable) and smoked tobacco addictions in parts of India
- Drunken driving: social and personal responsibilities and control measures
- Stigmatization of health conditions
- Behavioral issues in children and teens: substance abuse, suicide patterns
- TV and other media as influencers of healthy/non healthy lifestyle

10. Social and behaviour change, effective communication in healthcare:

- Introduction on sociological perspectives on health
- Key concepts in sociology as applied to the study of health
- Social and cultural processes impacting health status and access to health services
- Introduction to behaviour change theories and communication
- Health and human behaviour
- Medical anthropology
- 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)
- Human behaviour and communication, its role in public health problems and solutions
- Public speaking
- Verbal vs. Non-verbal communication
- Various forms of written communication
- Evidence based advocacy
- Consensus building
- Using audio visual aid in communication
- Etiquettes and professionalism

11. Public Health Nutrition, Gender and Health

Gender and Health:

- Define concepts - Gender, vulnerable populations, gender equality and equity and emerging issues
- Understand the difference between equity and equality
- Understand different forms of social exclusion
- Explain the difference between sex and gender and how these vari-

- ables, combined with other forms of social exclusion impacts on health
- 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
- To increase understanding of the inter- sectionalism between gender and other types of social exclusion/inclusion and patients' experiences in accessing and utilising health services and the impacts on up- take and utilization of services
- To increase understanding of the realities of discrimination from the grass root perspective
- To identify good practices in Gender and Social Inclusion (GSI) within India
- To become familiar with toolkits for including GSI in public health research, programs, policies and advocacy

Public Health Nutrition

- Appreciate the basic concepts and principles of foods and nutrition relevant to human health
- Summarize population based dietary and nutritional recommendations
- Define the concept, purpose and scope of Public Health Nutrition
- Understand the definition, utility and applications of epidemiology in nutritional sciences
- Recognize the role of community nutrition in improving human health
- Utilize suitable data and assessment methodologies to conduct community needs assessment
- Recognize the pillars of a healthy community
- 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)
- Demonstrate an understanding of principles of nutrition education and enlist the steps of developing nutrition education programs
- Demonstrate an understanding of project planning and management in nutrition programmes
- Appreciate inter-sectoral nature of nutrition and food policy
- Enlist the features of various ongoing nutrition programs
- Under/over nutrition

12. RMNCH+A

- Introduction to the RMNCH+A services - historical context, evolution, coverage and innovations
- Various components of service delivery under RMNCH+A (including GoI programs)
- Maternal, New-born and Child Health (MNCH) services in the country
- Adolescent health
- Role of gender in public health programs
- Evolution of RCH services in the country - Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)
- Innovations in service delivery
- Framework for evaluation of services
 - Reproductive and Sexual Health

- Fundamentals of reproductive biology
- Adolescent Sexual and Reproductive Health
- Understanding Reproductive Health Policy
- Family Welfare and Reproductive Health measures
- Reproductive Health programs in India

Maternal, Newborn and Child Health (MNCH):

- Introduction to maternal, new-born and child health programs and their behavioural basis
- Historical developments in MCH in India
- Reproductive & Perinatal Epidemiology
- Prenatal and Infant Growth and Development
- Issues in the Reduction of Maternal and Neonatal Mortality
- Preventing peri-natal and infant mortality
- Infectious Disease and Child Survival
- Nutrition and Growth in Maternal and Child Health
- Legislations and programs in MCH

Adolescent Health

- Overview of population health approaches for adolescents
- Adolescent Health and Development
- The Social Context of Adolescent Health and Development
- International Adolescent Health
- Adolescent Health status in India
- Adolescent Health Development - policy and systems
- Health issues specific to adolescents: anaemia, teenage pregnancy, menstrual hygiene, obesity, mental health promotion and illness prevention, substance use prevention, violence, media etc.

13. Introduction to Design and Evaluation of Public Health Programs

- Concepts underlying the design of health programs
- Basic approaches to the design, analysis and interpretation of health programs
- Communicate in public health research
- Framework to evaluate the effectiveness of health programme implementation
- Case Study: how to integrate a package of care for a specific problem into a platform of healthcare delivery
- Process, outcome and impact evaluation

14. Principles of Research Methods:

- Objectives of research
- Research design
- Ethical issues in research
- Tools and Measurements in research
- Sample size and sampling
- Understanding and analysis of o Qualitative data and research
- Quantitative data and research
- Mixed methods
- Public health surveillance and research

15. Law and ethics in public health

- Public Health laws and ethics
- Human rights in public health
- Role of governments in managing health of people
- Public health regulations in Indian context
- Public health information and privacy
- Research ethics in public health
- Regulations during emergencies and outbreaks
- Addressing newer challenges: Bioterrorism, conflicts and emerging infectious diseases
- Public Health laws in global economy
- Global health hazards and security
- Different forms of power, influential to policy making
- Concept of governance and institutions
- Different theories useful in policy analysis
- Political nature of evidence for policy making in health
- Written and verbal competence in communicating evidence to inform policy

16. Environment and Occupational health:

- Theories and history of environmental health
- Environmental health policy and legal mechanisms in a national and international context
- Ecosystems in various settings (linking the built environment, transport, housing and green space to human health)
- Environmental pollution, waste disposal and treatment
- Lifestyle and dietary effects on health, food safety and sanitation
- 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
- Climate Change & Health
- Biomedical Waste Management
- Management of environmental hazards, natural disasters
- Central Pollution Control Board (CPCB) guidelines
- Environmental health impact assessment

B. ELECTIVE MODULES

Elective 1: ADVANCED EPIDEMIOLOGY

i. Advanced Epidemiology:

- Directed acyclic graphs and conceptual framework
- Confounding bias, Selection bias, Information bias and methods to reduce confounding
- Measures of validity and reliability
- Nested study designs
- Advanced designs in epidemiology and clinical trials
- Modelling - Mathematical models
- Systematic reviews and meta-analysis overview
- Epidemiology and management of Vector Borne Diseases
- Health measures following disasters
- Various public data sources: CRS, SRS, Census, NFHS, DLHS, HMIS, MCTS, etc.

- Qualitative research
- Life table and Survival analysis

ii. Communicable disease epidemiology:

- Recognize the burden of communicable diseases (CD) affecting the population
- Examine factors contributing to the persistence of infectious diseases
- Understand reasons for emergence and re-emergence of infectious diseases
- Key concepts covered are:
 - Incubation periods
 - Epidemic patterns
 - Modes of transmission
 - Transmission dynamics
 - Measures of infectiousness
 - Secondary attack rates
- Analyze the transmission dynamics of diseases and design appropriate control measures
- Apply basic infectious diseases epidemiological skills to address major emerging and re-emerging communicable diseases
- Surveillance: Case in point: Integrated Disease Surveillance Program (IDSP)
- 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)
- Live outbreak investigation
- Adverse Event Following Immunization (AEFI) investigation

iii. Non-communicable diseases (NCD) epidemiology

- Describe and understand the epidemiology of NCDs
 - Cardiovascular diseases
 - Hypertension
 - Diabetes mellitus
 - Cancers
 - Mental health
 - Stroke
 - Burns/trauma/ accidents etc.
- Comprehend the upstream and downstream determinants of NCDs
- Understand the Individual approaches/or high-risk approaches and population based/ or public health approaches to prevent NCDs
- Recognize the risk factor approach to prevent non-communicable diseases
- Comprehend the Population based/public health approaches to prevention of common NCD risk factors (physical inactivity, tobacco and unhealthy diet)
- Familiarize with the current projects on targeting the prevention of NCDs, including, innovations in prevention
- How prevention of NCDs interlinks with Communicable diseases. How women and child health, health of the girl child links to prevention of NCDs
- Recognize Economic burden of NCDs and benefits of prevention
- Comprehend how sustainable development and prevention of NCDs

- go hand in hand
- Comprehend the power of policy and role of environment in the prevention of NCDs
- Population-based screening
- Surveillance of cancers including cancer registry

Elective 2: Health system management

i. Strategic management, Innovations and Entrepreneurship in healthcare

- Strategy: various definitions
- Major concepts and frameworks in strategic management: SWOT, experience curve, portfolio theory, value chain
- Strategic thinking and decision making
- Strategic planning: Environmental, scenario, implementation and evaluation
- Sustainability
- Various sources for financing a new venture: finalize your target audience
- Preparing a business speech, elevator pitch
- Innovations in public health
- Health informatics, e-Health
- Telemedicine, m-Health
- Conflicts management and negotiations in business world
- Business modelling: preparing your own business model
- Peer review of individual business model

ii. Advanced Operations Research

- History of operation research and seven stages of OR
- Safety, Acceptability, Feasibility and Effectiveness (SAFE) in designing Public Health Interventions
- Field interventions and field trials
- Stage 1: Formulate/define organizational problem
- Stage 2: Observe the system
- Stage 3: Create a mathematical model of the problem
- Stage 4: Model validation and application to the problem
- Stage 5: Identification of a suitable alternative
- Stage 6: Results discussion and conclusion
- Stage 7: Implementation and evaluation of the recommendation

Elective 3: Biostatistics

i. Advanced Biostatistics:

- Principles of regression
- Methods of regression
- Linear regression
- Logistic regression
- Poisson regression
- Cox proportional hazards regression
- Regression diagnostics
- Introduction to multilevel modelling
- Introduction to data imputation
- Choosing the best models

ii. Survey design and methods:

- Pre survey formative research
- Sampling and sample size calculations
- Ethical issues in surveys
- Tool development
- Conduct of surveys
- Quality control and assurance in surveys
- Survey data analysis
- Identify appropriate research designs for a range of questions in health
- Describe the steps involved in planning and conducting a research project
- Evaluate the strengths and weaknesses of various data collection methods

Elective 4: Public Health Finance & Organizational management

i. Advanced Financial management and budgeting

- Introduction to financial management
- Tools of financial analysis and planning in healthcare
- Cash flow, accounts and balancing budget
- Cost and dividend for health outcomes
- Effectiveness and efficiency
- Sustainability of health programs

ii. Organizational management and services

- Components of organization: Purpose, Coordination, Division of labour and Hierarchy
- Project management lifecycle
- Setting common goals and objectives
- Analytical thinking
- Risk identification and control
- Leadership
- Priority setting and resource allocation
- Why do organizations fail? learning from case stories

Elective 5: Effective advocacy, Communication & NGO role in health care

i. Role of Non-governmental Organizations (NGOs) in health care:

- Health service delivery and program Implementation
- Research and evidence generation
- Training and education
- Inter-sectoral coordination in health including Public Private Partnership
- Advocacy and planning in health care

ii. Effective communication in public health:

- Public speaking
- Effective Communication: Verbal versus Non - verbal communication
- Various forms of written communication
- Evidence based advocacy
- Consensus building
- Using audio-visual aid in communication
- Etiquettes and professionalism

Elective 6: Health Policy, Programme and Planning

i. Health policy, process and planning:

- Policy making: key components
- Policy framework
- Stake holders in policy making
- Effects of different interest and advocacy groups in influencing health policy
- Translating research in policy making
- Effects of national and international affairs on health policy
- Introduction to different national population, disease control, tobacco control, nutrition, maternal and child health policies
- Short term versus long term policies
- Resources allocation to optimize health
- Using research and data to drive good policy making

ii. Design and evaluation of public health programs (including current NHPs):

- Concepts underlying the design of health programs;
- Basic approaches to the design in health programs, with a focus on low resource settings
- analysis and interpretation of studies/programs;
- Communication in conducting public health research
- National health programmes in India (including goals, objectives, purposes, organization, man power, sources, activities, roles and responsibilities)

iii. Translating research for Health Policy and Advocacy:

- Different forms of power influential to policy making
- Concepts of Governance and Institutions
- Different theories useful in policy analysis
- Political nature of evidence for policy making in health
- Written and verbal competence in communicating evidence to inform policy
- Critical appraisal of issues in health policy and financing

iv. Current issues in health policy: National and Global perspective:

- Theory explaining public health action, its evolution and application in health policy
- Methods of assessing the health impact of different types of policy; national and global perspective
- Assessing health impacts of different policies across sectors
- Impact of health threats and interventions to counter health threats including crisis management

7. End semester Examination:

- a. JSSAHER Examinations: The JSSAHER shall conduct theory and practical examinations for the core subjects at the end of each semester. The candidates, who satisfy the requirement of attendance and Internal Assessment shall be eligible to appear for end semester examination.
- b. Non JSSAHER Examinations: Examinations for elective subjects shall be conducted by the department and the marks obtained shall be submitted at least 15 days prior to the end semester examination. The marks of non-

core subjects shall be incorporated in the marks card issued by JSSAHER. The candidates shall have passed all the subjects of semester I, II and III before appearing for Semester IV research project examination.

8. Scheme of Examination:

Question paper pattern for end semester Deemed to be University theory examinations (marks)

Time : 3 Hours		Maximum Marks 75
Part A	Long Answers Answer any two questions out of three	$2 \times 15 = 30$
Part B	Short Answers Answer any six questions out of eight	$6 \times 5 = 30$
Part C	Brief Notes Answer all five questions	$5 \times 3 = 15$
Total		75 marks

9. Examiners

- Appointment of Examiners: Examiners shall be appointed by the Deemed to be University to conduct the end semester Deemed to be University examinations, from the panel of examiners approved by the Board of Studies. For Practical examinations, there shall be one external examiner and one internal examiner. Theory paper shall be valued by both the examiners.
- Qualification and Experience of Examiner: Any faculty with MD Community Medicine/ MPH with a minimum experience of 5 years of teaching experience for MPH students are eligible to become examiner.

10. Criteria for pass

Core Subjects: Candidates are declared to have passed in a subject if they secure 50% marks in Deemed to be University examination and internal assessment added together. Theory & practical shall be considered as separate subjects.

Elective papers: The minimum prescribed marks for pass shall be 50% of the maximum marks prescribed for a subject.

11. Grading of performances

a) Letter grades and grade points allocations

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course. The letter grades and their corresponding grade points are given in Table - IX.

Table - IX: Letter grades and grade points equivalent to percentage of marks and performances

Percentage of Marks obtained	Letter Grade	Grade Point	Performance
90.00 - 100	O	10	Outstanding
80.00 - 89.99	A	9	Excellent
70.00 - 79.99	B	8	Good
60.00 - 69.99	C	7	Fair
50.00 - 59.99	D	6	Satisfactory
Less than 50	F	0	Fail
Absent	AB	0	Fail

A candidate who remains absent for any end semester examination shall be assigned letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course.

b) The Semester Grade Point Average (SGPA)

The performance of a student in a semester is indicated by a number called 'Semester Grade Point Average' (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester. For example, if a student takes five courses (Theory/Practical) in a semester with credits C₁, C₂, C₃, C₄, C₅ and C₆ and the student's grade points in these courses are G₁, G₂, G₃, G₄, G₅ and G₆, respectively, and then students' SGPA is equal to:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4 + C_5G_5 + C_6G_6}{C_1 + C_2 + C_3 + C_4 + C_5 + C_6}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F and ABS grade awarded in that semester. For example if a learner has a For ABS grade in course 4, the SGPA shall then be computed as:

$$\text{SGPA} = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4 \text{ ZERO} + C_5G_5 + C_6G_6}{C_1 + C_2 + C_3 + C_4 + C_5 + C_6}$$

C) Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the IV semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all IV semesters and their courses. The CGPA shall reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade on subsequent examination(s) the CGPA shall only reflect the new grade and not the fail grades earned earlier. The CGPA is calculated as:

$$\text{CGPA} = \frac{C1S1 + C2S2 + C3S3 + C4S4}{C1 + C2 + C3 + C4}$$

where C1, C2, C3,... is the total number of credits for semester I,II,III,..... and S1,S2, S3,...is the SGPA of semester I,II,III,.....

12. Declaration of class

The class shall be awarded on the basis of CGPA as follows:

First Class with Distinction	= CGPA of. 7.50 and above (Only for first attempt, exceptions can be considered only by Deemed to be University authorities)
First Class	= CGPA of 6.00 to 7.49
Second Class	= CGPA of 5.00 to 5.99

13. Carry over

A candidate must have passed all the previous semester subjects (core/ elective) to appear for the fourth semester Deemed to be University examination. Since there will be no odd batch, candidate who have lost the papers have to write exams along with the regular semester exams for both theory and practicals.

14. Award of Ranks/Medals

Ranks and Medals shall be awarded on the basis of final CGPA. However, candidates who fail in one or more subject during the course shall not be eligible for award of ranks.

15. Award of degree

A candidate who has passed in all the subjects (core/elective papers) of all the semesters and has successfully completed the internship shall be eligible for award of degree.

16. Revaluation and Re-totaling of answer papers

There is no provision for revaluation of the answer papers in any examination. However, the candidates can apply for re-totaling by paying prescribed fee.

17. Maximum duration for completion of course

A candidate shall complete the course within four years from date of admission, failing which candidate shall re-register for the course.

Reference Text Books

1. Park's Textbook of Preventive and Social Medicine by K.Park
2. Public Health and Preventive Medicine (Maxcy-Rosenau-Last Public Health and Preventive Medicine) by Robert B. Wallace
3. Basic Epidemiology. R Bonita, R Beaglehole, T Kjellstrom. World Health Organization Geneva.
4. Epidemiology by Leon Gordis.
5. Oxford Textbook of Public Health by Holland W, Detel R, Know G.
6. Essentials of Preventive medicine by Ghai OP
7. Practical Epidemiology by D.J.P Barker
8. Preventive and Community Medicine : Clark & MacMahon
9. Medical Statistics: Principles and Methods by Sundaram, S N Dwivedi, V Sreenivas
10. Elements of Health Statistics by N S N Rao
11. An Introduction of Biostatistics by Sunder Rao P S S
12. Epidemiology, Principles and Methods by B. MacMahon, D. Trichopoulos
13. Hunter's Diseases of Occupations by Donald Hunter, PAB Raffle, PH Adams, - Peter J. Baxter, WR Lee.
14. Sathe PV and Sath AP Epidemiology and Management for Health Care for All.
15. Text book of Public Health and Community Medicine by Rajvir Bhalwar, **AFMC.**
16. Community Medicine and its Recent Advances by AH Suryakanth
17. Text Book of Preventive and Social Medicine by Sunderlal
18. National Health Program by Jugal Kishore
19. Recent Advances in Occupational Health by Harrington
20. All reports and documents related to National Programmes from the
21. Ministry of Health and Family Welfare- Government of India.
22. Text book of Sociology by Dr.Vidyabhushan.
23. Module 1: Health care delivery system in India by National Institute of Health and Family Welfare. New Delhi.
24. Module 4: Human Resource Management. National Institute of Health and Family Welfare. New Delhi.

LIST OF ABBREVIATIONS

AEFI	Adverse Event Following Immunization
AIDS	Acquired Immuno-Deficiency Syndrome
BCC	Behaviour Change Communication
CBA	Cost Benefit Analysis
CEA	Cost Effective Analysis
CD	Communicable diseases
CPCB	Central Pollution Control Board
CRS	Civil Registration System
DLHS	District Level Health Survey
GSI	Gender and Social Inclusion
HMIS	Health Management Information System
IDSP	Infectious Disease Surveillance Program
IEC	Information Education and Communication
IPC	Inter Personal Communication
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MCTS	Mother and Child Tracking System
MDG	Millennium Development Goals
MNCH	Maternal, New-born and Child Health
MPH	Master's in Public Health
NCD	Non Communicable Diseases
NFHS	National Family Health Survey
NHP	National Health Policy OR Operational Research
PHE	Public Health Education
PPP	Public Private Partnership
RMNCH+A	Reproductive, Maternal, Newborn, Child, and Adolescent health
SBCC	Social Behaviour Change Communication
SDG	Sustainable Development Goals
SPSS	Statistical Package for the Social Sciences
SRS	Sample Registration Survey
STI	Sexually Transmitted Infections
SWOT	Strength, Weakness, Opportunities and Threats
TB	Tuberculosis
SAFE	Safety, Acceptability, Feasibility and Effectiveness (SAFE)



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