

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

School of Medical Sciences

Program: MPH

Vision Statement:

To be an internationally reputed state of art professional, academic, research and clinical entity in the field of Medical Sciences

Mission Statements:

*Leaders in
Education*

Conceptualising and delivering innovative doctoral, masters and skill based education programs

*Translation
Research*

Promoting translational research enabling to provide solutions

*Caring the
community*

Be professional and compassionate in providing health care

*Public Policy &
networking*

Developing Portfolio for research, partnership and networking, policy, advocacy and think tank

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Name of the Academic Program: MPH

Qualification Descriptors (QDs)

After the completion of the Master of Public Health program, the students should be able to

QD-1: Apply knowledge of public health in socially, culturally and economically diverse populations by being attentive to needs of vulnerable and disadvantaged groups.

QD-2: Promote public health research in gender sensitive approach at Institutional and field settings for Health Advocacy

QD-3: Work effectively in program organization and management, problem solving and critical thinking in public health domain

QD-4: Take up the leadership roles and effectively use communication skills for health advocacy

QD-5: Build partnership and networking for public Health and Take public health related responsibilities in NGOs/Public health Institutions.

QD-6: Engage in lifelong learning and design engendered and ethical solutions for public health challenges in compliance to social needs

Mapping Qualification Descriptors (QDs) with Mission Statements (MS)

	MS-1	MS-2	MS-3	MS-4
QD-1	3	1	2	2
QD-2	2	3	3	2
QD-3	3	1	2	2
QD-4	2	3	1	1
QD-5	3	1	1	2
QD-6	2	3	2	1

'3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping.

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Program Learning Outcomes (PLOs) (10 to 12)

After completing the Master of Public Health program successfully, the students should be able to

PLO-1 Demonstrate comprehensive knowledge and skills in all the domains of public health

PLO-2 Demonstrate Analytical and assessment skills for collecting and interpreting information

PLO-3 Demonstrate Policy planning and development skills to address public health challenges and issues

PLO-4 Demonstrate Communication skills for advocacy, dissemination and evaluation of public health data and information

PLO-5 Demonstrate ability to define problems, formulate hypothesis, test hypothesis, analyze, interpret, and draw conclusions from the data.

PLO-6 Conduct critically the situational analysis and develop action plan for identified public health issues

PLO-7 Demonstrate an understanding of the epidemiological transitions of programs specific to each state within the country to prioritize public health challenges for policy making

PLO-8 Demonstrate the capacity to apply conceptual framework to understand policy processes in health care and competency to manage health systems at different levels.

PLO-9 Demonstrate an understanding to facilitate intersectoral coordination, collaboration, and Public private partnership

PLO-10 Demonstrate the ability to identify ethical issues related to one's work, avoid unethical behavior such as committing plagiarism

PLO-11 Be open to lifelong learning

PLO-12 Demonstrate Leadership skills, social accountability, and responsibility

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**Mapping of Program Learning Outcomes (PLOs)
with Qualification Descriptors (QDs)**

	QD-1	QD-2	QD-3	QD-4	QD-5	QD-6
PLO-1	3	3	3	2	2	2
PLO-2	3	3	3	3	2	2
PLO-3	3	3	3	3	2	2
PLO-4	3	3	2	3	3	2
PLO-5	3	3	3	2	2	2
PLO-6	3	2	3	2	2	2
PLO-7	3	2	3	2	2	2
PLO-8	3	3	3	2	3	2
PLO-9	2	2	3	3	3	2
PLO-10	2	3	3	2	2	2
PLO-11	2	2	2	2	2	3
PLO-12	2	2	3	3	3	2

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Name of the Academic Program - Master of Public Health (MPH)

Course Structure:

YEAR 1					
SEMESTER 1 (20 CREDITS)			SEMESTER 2 (20 CREDITS)		
Course Code	Course Title	Credits	Course Code	Course Title	Credits
PU401	Introduction to Public Health and Health Governance	4	PU452	Quantitative Research Methods & Data Management	4
PU402	Health Care Policy and Delivery Systems	4	PU454	Work, Environment & Health Ethics	4
PU403	Biostatistics	4	PU451	Sociology of Health, Sickness & Healing	4
PU405	Basic Epidemiology	4	PU453	Advanced Epidemiology	4
PU455	Gender, Body & Health	4	PU527	Ageing and Health	4
YEAR 2					
SEMESTER 3 (18 CREDITS)			SEMESTER 4 (14 CREDITS)		
Course Code	Course Title	Credits	Course Code	Course Title	Credits
PU 501	Public Health Nutrition	4	PU551	Project Work	4
PU 502	Health Economics	4	PU571	Health Project Management	4
PU 528	Introduction to Bioethics	2	PU578	NCD Epidemiology	2
PU 522	Public Health Disability	4	PU577	Public Health Practice	4
PU 524	Qualitative Research	4			

Teaching methods: Didactic, Interactive, Problem based Teaching-Learning methods, Case discussions, self-directed reading, and learning. Class Presentations, collective discussions and critical appraisal of published reports and articles.

Assessment and Evaluation: Formative as different methods of internal assessments – quiz, assignments, presentations and summative as written end semester examination.

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Course Code: PU 402	Title of the Course: Public Health Planning and Management - 2
L-T-P – Theory	Semester I/Credits: 4
Prerequisite Course / Knowledge (If any): Introduction to Public Health first few classes	

CLO 1: Impart a general understanding of the logic and process of public policy-making in health

CLO 2: Introduce different types of health systems existing in the world, their merits and demerits

CLO 3: Familiarize with concepts relating to health systems such as coverage, financing, quality of care, regulation, and insurance

CLO 4: Enable to undertake preliminary analysis and comparison of health policy issues and decisions based on this understanding

CLO 5: Introduce students to some analytical tools used in policy studies.

CLO 6: Enable students to understand the role of advocacy and consultancy in the policy process, with emphasis on the value of communication skills.

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	3	3	3	1	3	2	3	1	3	1	3
CLO2	2	1	3	3	1	3	3	3	2	3	2	3
CLO3	3	2	3	3	3	3	2	3	3	3	2	3
CLO4	2	3	3	3	3	3	3	3	3	3	1	3
CLO5	1	2	3	2	1	2	1	2	1	1	1	1
CLO6	2	3	3	3	2	3	3	3	3	3	1	3

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

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Detailed Syllabus

Unit 1. Health Policy

- Introducing Health Policy
- Evidence Based Health Policy

Unit 2. Policy making

- Foundations of health policy making
- Theories of policy process
- Equity, Access and Quality
- Policy Analysis
- Policy Brief
- Writing a Policy Brief

Unit 3. Health Care Delivery Systems

- Health Services overview
- Globalization and Health
- Contemporary themes in National Health
- Private Sector and Health

Unit 4. Health Systems Approach

- Service Delivery
- Human Resources in Health
- Leadership and Governance
- Health Financing
- Information and communication technology
- Access to medicines, vaccines and devices

Unit 5. Health Policies and Programs in India

- National Health Policy
- National Health Programs
- Universal Health Coverage

Unit 6. Health Sector Reforms and Regulations

- Regulating Pvt Health Sector
- Health Sector Reforms
- Legislations for Health

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Unit 7. International Health

- Comparative Health Systems
- International health actors and processes

Unit 8. Communicating Health

- Advocacy in Health
- Communication for Policy and Advocacy

Reference Books:

1. IAPSM's Textbook of Community Medicine Paperback – Mar 2019, A. M Kadri (Author)
2. Lee, Kenneth and Mills, Anne "Policy making and planning in health Sector" 1987, OUP.
3. Priorities in Health, World Bank Publications, 2006
4. An Introduction to Social Policy, Peter Dwyer & Sandra Shaw (eds), SAGE, 15-Mar-2013

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Name of the Academic Program - Master of Public Health (MPH)

Course Code: MPH- PU 455

Title of the Course: Gender and Health

L-T-P: Theory

Semester I/ Credits 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1. Distinguish between sex and gender, define and describe the social construction of gender, and apply gender theories to public health issues

CLO-2. Compare how women, men and transgender individuals are impacted differently in a wide variety of settings and issues and be able to discuss gender discrimination and contemporary gender issues in an informed manner

CLO-3. Synthesize contemporary issues from a gender perspective to assess how gender contributes to the differential structuring of health experiences for women, men, gender non-conforming or gender queer individuals, trans individuals, and gender minorities

CLO-4. Develop gender analysis framework for the health research to apply in an intersectional lens to health and social inequities

CLO-5. Evaluate the underlining factors in inequities at the intersection of sex, gender, gender identity, sexual orientation, disability, ethnicity, and income status

CLO-6. Analyze gender theories in an interdisciplinary way, to case studies of contemporary national and international health issues

CLO-7. Integrate multiple and varying perspectives on a research question and respond to social and research inquiries

CLO-8. Evaluate the health programs and policies in reference to inequities and social needs.

Mapping of Course Learning Outcomes (CLOs)with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	2	3	1	3	2	2	2	1	1	2	2	1
CLO2	2	3	1	3	2	2	2	2	2	2	2	1
CLO3	3	3	2	3	2	3	2	2	2	2	2	2
CLO4	3	3	2	3	3	3	3	2	2	2	2	3
CLO5	3	3	2	3	3	3	3	3	2	3	2	2
CLO6	3	3	2	2	3	3	3	2	2	3	2	2
CLO7	3	3	2	3	3	3	3	3	2	3	3	3
CLO8	3	3	3	2	3	3	3	3	3	2	2	3

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Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping.

Detailed Syllabus:

Unit 1: Overview of the course;

- 1.1. Introduction to the concepts of Sex and Gender.
- 1.2. Conceptualizing Gender;
- 1.3. Understanding sex and gender and how these variables are affected by social-cultural variables.

Unit 2: Understanding Feminism,

- 2.1. History of Feminism
- 2.2. Feminism in India;
- 2.3. Theories of Feminism LGBT challenges, gender Discrimination, gender transformation and gender based violence

Unit. 3: Gender, Body and Society

- 3.1. The concept of Embodiment;
- 3.2. Bodies Perceived and Depicted;
- 3.3. The Gendered Body.

Unit 4: Intersectionality and Health Inequities.

- 4.1. Inter- sectionalism between gender and social exclusion/inclusion.
- 4.2. Gender experiences in accessing health services, intersectoral coordination
- 4.3. Factors associated in accessing, on uptake and utilization of health services.

Unit 5: Gender as a Determinant of Health;

- 5.1. Gender as a vital determinant of Health
- 5.2. Health Policy and Women:
- 5.3. Gender analysis of Public health programs, Health policies and advocacy.

Unit 6: Gender and Health.

- 6.1. Sexual and Reproductive rights.
- 6.2. History of Women's Health.
- 6.3. Reproductive Justice: Birth Control, Pregnancy, and Delivery. Mothering and Reproductive Structuring.

Unit 7: Gender, Disability, Mental Health and Aging:

- 7.1. Gender and Disability
- 7.2. Gender and Mental health
- 7.3. Gender and Ageing

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Unit 8: Gender and Ethics; Age sensitive Health policies; How well do the Sustainable Development Goals Support Gender Equality; Case studies, seminars, debates, discussions on Issues of Gender main streaming. .

Teaching methods: Didactic, Interactive, Problem based Teaching-Learning methods, Case study discussions and self-directed reading and learning. Class Presentations and critical appraisal of policies, published reports and articles.

Assessment and Evaluation: Formative as different methods of internal assessments and summative as written end semester examination.

References:

1. Krieger, Nancy, "Genders, sexes, and health: what are the connections – and why does it matter?" *International Journal of Epidemiology* 32 (2003): 652-657.
2. Krieger, Nancy and Elizabeth Fee, "Man-Made Medicine and Women's Health: The Biopolitics of Sex/Gender and Race/Ethnicity," *International Journal of Health Services* 24(2) (1994): 265-283.
3. Connell, Raewyn, "Gender, health and theory: Conceptualizing the issue, in local and world perspective," *Social Science & Medicine* 74 (2012): 1675-1683.
4. Denton, Margaret, Steven Prus, and Vivienne Walters, "Gender differences in health: a Canadian study of the psychosocial, structural, and behavioural determinants of health," *Social Science & Medicine* 58 (2004): 2585-2600.
5. Courtenay, Will, "Constructions of masculinity and their influence on men's well-being: a theory of gender and health," *Social Science & Medicine* 50 (2000): 1385-1401.
6. Bowleg, Lisa, "The Problem With the Phrase *Women and Minorities*: Intersectionality – an Important Theoretical Framework for Public Health," *American Journal of Public Health* 102(7) (2012): 1267-1273.
7. Samuels-Dennis, Joan et. al., "Intersectionality Model of Trauma and Post-Traumatic Stress Disorder," in *Health Inequities in Canada: Intersectional Frameworks and Practices*, ed. Olena Hankivsky, UBC Press: 2011, 274-288.
8. M. Pilar Sánchez-LópezRosaLimiñana-Gras, *The Psychology of Gender and Health*, 1st edition 3rd January 2017, Academic Press
9. Jasmine Gideon, "Handbook on Gender and Health" Publication Date: 2016 ISBN: 978 1 78471 085 9
10. Annandale Kuhlmann Annandale Kuhlmann, *The Palgrave Handbook of Gender and Healthcare*, 2 New edition 2012, Palgrave MacMillan
11. Purohit, Brijesh C, "Inequity in Indian Health Care", 1st edition 2017 Hardcover ISBN 978-981-10-5043-5, Springer Singapore
12. K.S. James Arvind Pandey, Dhananjay W. BansodLekhaSubaiya, "Population, Gender and Health in India: Methods, Processes and Policies", Academic Foundation (2010)
13. Manoranjan Pal, PremanandaBharati, Bholanath Ghosh, and T.S. Vasulu, "Gender and Discrimination Health, Nutritional Status, and Role of Women in India", Published: 10 November 2011, Oxford University Press 2017
14. KeertyNakray, "Gender-based Violence and Public Health: International perspectives on budgets and policies" 1 edition (16 June 2017), Routledge
15. Chloe E. Bird, "Gender and Health: The Effects of Constrained Choices and Social Policies" edition (January 28, 2008), Cambridge University Press;
16. Judith Lorber and Lisa Jean Moore, *Gender and the Social Construction of Illness (Gender Lens)* 2 edition (August 15, 2002), AltaMira Press

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17. Steele, Linda and Leanne Dowse, "Gender, Disability Rights and Violence Against Medical Bodies," *Australian Feminist Studies* 31(88) (2016): 187-202.
18. Fish, Rebecca and Chris Hatton, "Gendered experiences of physical restraint on locked wards for women," *Disability & Society* 32(6) (2017): 790-809.
19. Day et al. Integrating and evaluating sex and gender in health research. *Health Research Policy and Systems*. 2016, 4(1):75.
20. Tanenbaum et al. Why sex and gender matter in implementation research. *BMC Medical Research Methodologies*. 2016,16(1):145

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Course Code: PU 405

Title of the Course: Basic Epidemiology

L-T-P – Theory

Semester I/ Credits: 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

1. CLO-1 - Explain the basic principles of epidemiology
2. CLO-2 - Identify key sources of population health data
3. CLO-3 - Calculate and interpret measures of disease morbidity and mortality
4. CLO-4 - Interpret validity and reliability of screening and diagnostic tests in the context of screening.
5. CLO-5 - Describe the basic epidemiologic study designs and discuss the advantages and disadvantages of each design
6. CLO-6- Define major sources of error and bias in epidemiologic research, assess the implications and identify approaches to minimise their impact
7. CLO-7- Use epidemiological reasoning to Interpret measures of association
8. CLO-8- Use epidemiological reasoning to evaluate causal inference in epidemiological studies

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	2	3	2	3	2	2	3	1	2	1	3	1
CLO2	1	3	2	2	2	3	3	1	2	1	3	1
CLO3	2	3	2	2	2	3	3	1	2	1	3	2
CLO4	2	3	2	2	2	3	2	1	1	1	2	1
CLO5	2	3	1	2	3	2	2	2	2	2	3	1
CLO6	2	3	2	3	3	2	1	1	1	2	3	1
CLO7	2	3	1	3	3	2	1	2	1	2	3	1
CLO8	2	3	1	3	3	1	2	2	1	2	3	2

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Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

Unit 1:

- History and evolution of epidemiologic methods
- Definitions, Basic concepts and applications

Unit 2:

- Sources of data
- Types of data collection methods
- Measurement of disease frequency
- Person-time exposure

Unit 3:

- Measures of association and impact
- OR, RR, AR and PAR Preventable and prevented fractions
- Natural history of a disease and its application in disease control
- Levels of prevention and modes of intervention
- Formulation and Importance of a case definition
- Development of a case definition over time
- Methods of data collection – reliability and validity
- Sensitivity, specificity and predictive values

Unit 4

- Epidemiological study designs
- Overview of study designs
- Descriptive studies
- Ecological studies
- Case control
- Cohort
- Randomized control trials
- Systematic review and meta-analysis
- Hybrid designs in epidemiology
- Community based epidemiologic studies

Unit 5

- Estimating the risk- is there an association?
- Association to causation
- Causal inferences: Bias ,confounding and interaction

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Reference Books:

1. Gordis, L., 2014. Epidemiology. Elsevier Saunders, p.412
2. Centre for Disease Control and Prevention, 2006. Principles of epidemiology in public health practice: an introduction to applied epidemiology and biostatistics.p.511
3. Bonita, R., Beaglehole, R. and Kjellström, T., 2006. Basic epidemiology. World Health Organization.p.226
4. Rajvir, B., 2009. Text book of Public Health and Community Medicine. Pune: Department of community medicine, Armed Forces Medical College, pp.60-308.

Course Code: PU 401

Title of the Course: Introduction to Public Health

L-T-P: Theory

Semester I/ Credits: 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs)

After completion of this course successfully, the students will be able to.....

CLO-1. Describe key features of the historical development of public health, including the most important achievements of public health.

CLO-2. Identify and describe core functions of public health

CLO-3. Identify the role and contributions of each of the core disciplines in public health

CLO-4. Describe the various components of the national, state, and local public health systems

CLO-5. Understand the determinants of health from a global perspective, including environmental, social, cultural, behavioral, and biological factors.

CLO-6. Outline the concepts of prevention, detection, and control of infectious and chronic diseases

CLO-7. Describe important public health problems facing society including health disparities

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	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	2	2	2	2	2	2	2	2	2	3	2	2
CLO2	2	2	2	2	2	2	2	2	2	2	3	2
CLO3	2	2	2	2	2	2	2	2	2	3	2	2
CLO4	2	2	2	2	2	2	2	2	2	2	3	2
CLO5	2	2	2	2	2	3	2	2	2	2	2	2
CLO6	2	2	2	2	2	2	2	2	2	3	2	2
CLO7	3	2	2	2	2	3	2	2	3	3	3	3

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

Unit I Introduction to Public Health

1. Definition of Public Health and Associated Terms
2. Current Concerns in Public Health : Global and Local
3. Understanding of current public health challenges from their shared experiences or regions

Unit II History and Evolution of Public Health

1. Core functions of public health.
2. Scope of public health.
3. History of public health
4. Evolution of Public Health

Unit III. Health and Determinants

1. Concept of health and disease,
2. Natural history of disease,
3. Levels of prevention

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4. Determinants of health
5. Case study on social determinants of health

Unit IV. Overview of health systems

1. Indian Health Systems
2. Systems thinking in public health
3. Case study on health systems units and key functions
4. Health System Reforms (HSR)
5. Case study on HSR

Unit V. Public Health Governance

1. Good governance in Public Health: Issues , challenges and way forward
2. Introduction to Public Health Policy.
3. Introduction to Public health and management
4. Introduction to public health laws and Ethics.

Reference Books:

1. Social and Behavioral Foundations of Public Health 2nd Edition by M (Marie) Jeannine Coreil
2. Essentials of Health Behavior (Essential Public Health) 2nd Edition by Mark Edberg Integrating Behavioral and Social Sciences With Public Health Edited by Neil Schneiderman, PhD, Marjorie A. Speers, PhD, Julia M. Silva, Henry Tomes, PhD, and Jacquelyn H Gentry, PhD. ISBN: 978-1-55798-721
3. Public Health and Preventive Medicine (Maxcy-Rosenau-Last Public Health and Preventive Medicine) by Robert B. Wallace
4. Oxford Textbook of Public Health by Holland W, Detel R, Know G.
5. Essentials of Preventive medicine by Ghai OP
6. Mary-Jane Schneider, Introduction to Public Health, 2nd ed. Jones and Bartlett, 2006.
7. Essentials of Public Health: BJ Turnock. Jones & Bartlett, 2007

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Course Code: PU 451

Title of the Course: Biostatistics

L-T-P: Theory

Semester I/ Credits: 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

OBJECTIVE:

This course helps the students to understand and analyze statistical problems in a business framework. They shall be exposed to fundamental statistical techniques to solve real life problems in Biological Sciences, Medicine & Public health situations enable them to take better decisions.

Course objectives	Cognitive abilities	Course outcomes
CO1	Remember	Define data, statistics, information and its applicability in biological sciences
CO2	Understand	Explain various methods statistical analysis: Descriptive and Inferential statistics
CO3	Understand	Explain various statistical techniques like probability and sampling distributions, Correlation and Regression
CO4	Apply	Calculate and apply various statistics using empirical data and their applicability in statistical models
CO5	Analyze	Analyze various hypothesis testing situations and regression analysis

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

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CLO1	2	3	2	2	3	1	2	2	2	3	3	1
CLO2	3	3	2	3	3	3	2	3	2	3	3	1
CLO3	2	3	1	2	3	1	1	3	1	3	3	2
CLO4	2	2	2	3	3	2	1	3	2	3	3	2
CLO5	1	2	2	1	1	1	1	1	1	3	3	3

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COURSE OUTLINE: [Approximate number of lectures per topic]

Unit1 Introduction: History; Subdivisions within Statistics; Data collection, Editing, Classification, Tabulation, Diagrammatic and Graphical representation of data. [8]

Unit2 Measures of Central tendency and Dispersion: Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Mean Deviation, Quartile Deviation, Standard Deviation, Skewness, Kurtosis and Moments. [8]

Unit3 Probability and Probability Distributions: Introduction to Probability, Probability Rules, Probabilities under Conditions of Statistical Independence, Probabilities under Conditions of Statistical Dependence, Revising Prior Estimates of Probabilities, Bayes' Theorem, Random Variables, Use of Expected Value in Decision Making, Binomial Distribution, Poisson Distribution, Normal Distribution.[8]

Unit4 Correlation, Regression and Time Series: Correlation, Product moment correlation, Rank correlation, Bi-variate correlation, Regression, Simple linear Regression, Line of best fit, Time Series, Trend Analysis, Cyclical Variation, Seasonal Variation, Irregular Variation, Time Series Analysis in Forecasting.[8]

Unit5 Sampling and Estimation: Random Sampling, Introduction to Sampling Distributions, Relationship between Sample Size and Standard Error, Point Estimates, Interval Estimates, Confidence Intervals, Calculating Interval Estimates of the Mean from Large Samples, Testing of Hypothesis [8]

SUGGESTED READINGS:

Textbooks:

The following are list of suggested textbooks, although the course will initially be taught from a set of lecture notes.

1. Richard I. Levin & David S.Rubin, Statistics for Management, PHI.1999, New Delhi.
2. Kishor S. Trivedi, Probability and Statistics with Reliability, Queuing and Computer Science Applications, John Wiley & Sons, Singapore, 2002.
3. John E.Freund & Ronald E. Walpole, Mathematical statistics, PH, New Jersey, 1980.
4. E.L.Lehmann, Testing Statistical Hypotheses, John Wiley & Sons, New York, 1986.
5. S.P. Gupta, Statistical Methods, Sultan Chand & Sons, New Delhi 1998.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

6. Sundar Rao P.S.S, Richard J, Introduction to biostatistics – A manual for students in Health Sciences, PHI Learning Pvt. Ltd. 1996, New Delhi.
7. Susan Milton , Statistical METHODS IN THE Biological and Health Sciences,1999, McGraw-Hill
8. B. Burt Gerstman, Basic Biostatistics: Statistics for Public Health Practice, Jones & Bartlett Learning, 2008.
9. Wayne W. Daniel, John Wiley, Biostatistics: A Foundation for analysis in the Health Sciences, New York.

Internal Examinations and End-Semester Exam details and evaluation pattern

- *Internal Examinations: 30% (Average of the Best two)*
- Attendance and In-Class Contribution: 10%
- End Semester Examination: 60%

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU453

Title of the Course: Advanced Epidemiology

L-T-P: Theory

Semester II/ Credits: 4

Prerequisite Course / Knowledge (If any): Basic Epidemiology

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1 Explain the various steps in the investigation of an outbreak

CLO-2 Apply various advanced epidemiologic methods to evaluate health services, public health programs and policies.

CLO-3 Examine how epidemiologic designs, such as studies of age of onset of a disease, family studies, and migrant studies can help clarify the roles of genetic and environmental factors in disease causation.

CLO-4 illustrate how the occurrence of disease reflects an interaction between environmental and genetic factors.

CLO-5 Evaluate critically the validity of proposed and completed studies, addressing potential sources of bias: selection (response) bias, information bias and confounding

CLO-6 discuss the advantages of stratification, matching, and statistical adjustment for control of confounding;

CLO-7 Explain the essential steps of performing a systematic review and meta-analysis addressing an epidemiologic or clinical research question

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	3	3	3	3	3	2	3	3	2	2	3
CLO2	3	3	3	3	3	3	2	3	3	2	2	3
CLO3	3	3	2	3	3	3	3	3	3	2	2	2
CLO4	3	3	3	2	3	3	2	3	2	2	2	2
CLO5	3	3	2	2	3	3	2	2	2	2	2	2
CLO6	3	3	2	2	2	2	2	2	2	2	2	2
CLO7	3	3	3	3	3	3	3	3	2	2	2	2

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Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

Unit 1: Revision of Basic Epidemiology – Run down of Semester 1.

Unit 2: Identifying the Roles of Genetic and Environmental Factors in Disease Causation.

Unit 3: Using Epidemiology to evaluate health services

Unit 4: The Epidemiologic approach to screening programmes.

Unit 5: Epidemiology and Public Policy including Ethical and Professional Issues in it.

Unit 6: Designing a valid, reliable and responsive questionnaire.

Unit 7: Surveillance and Outbreak Investigations.

Unit 8: Burden of infectious, chronic and nutritional diseases in India

Unit 9: Critical Appraisal of Published articles in Epidemiology

Unit 10: Understanding and undertaking systematic reviews – an overview

Reference Books:

1. Leon Gordis (2019), Epidemiology, 6th Edition, Elsevier Publication.
2. R Beaglehole (2007), Basic Epidemiology, WHO.
3. Principles of Epidemiology in Public Health Practice (2012), 3rd Edition, CDC.
4. Rothman, Greenland and Lash (2008). Modern Epidemiology. (3rd Ed.) Lippincott Williams & Wilkins.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PH 454 Title of the Course: Work, Environment and Health Ethics
L-T-P...28-NA-12 Semester II/ Credits: 4
Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs)

After completion of this course successfully, the students will be able to.....

CLO 1- have a clear understanding of the definition and history of Occupational health

CLO 2- health hazards of various occupations and its prevention

CLO 3- identify the key hazards at work place and have familiarity with environmental risk assessment.

CLO 4- To understand the concept and practical application of various measures such as: personal protective measures, pre-placement examination and periodic examination.

CLO 5- Ascertain causality between an exposure (at work place) and an outcome (disease)

CLO 6- Familiarise with Indian Factories Act and Employees State Insurance Scheme (ESIC) and Environmental Laws

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	1	2	3	1	3	1	1	2	2	1	3
CLO2	3	1	1	3	2	3	2	1	2	3	1	2
CLO3	3	1	1	3	1	3	1	1	3	3	1	3
CLO4	1	2	3	3	2	3	1	1	2	2	3	3
CLO5	3	1	2	1	3	3	3	1	2	3	2	3
CLO6	1	3	2	1	2	2	2	2	2	2	2	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Unit I. Introduction to the environmental burden of disease in India and Globally.

Basic concepts like Environmental health; Ecology; Toxicology; Environmental health economics

Unit II. Estimating Exposure, dose, response and outcome

-Definition, exposure assessment, dose response relationship, toxicological paradigm, analysis of human exposure
Estimating Exposure, dose, response and outcome

Unit III. Water pollution:

Types of pollution, major sources, water quality standards, water supply and treatment.

Unit IV. Indoor and outdoor air pollution:

Human and man-made sources, health effects, control measures
Solid waste management
Biomedical waste
Noise pollution, Ventilation, Light, Housing:
Sources of noise pollution, mitigating factors and tolerance levels, health effects; housing and health, housing for migrant and low-income populations ;
Principles of radiation physics, Measurement, risks, control and management
Globalization and its impact on the environment*
Climate change*
Bioterrorism*
Detailed discussion and debate on Global warming and its impact in India
Land use, Depletion of natural resources
Toxic substances analysis

Unit V. Environmental impact assessment

Definition, objectives, principles and steps in carrying out the assessment
Environmental disasters*
Food safety and sanitation
-common food borne diseases hazards
-food preservation
-food and drug administration act

Unit VI. Environmental legislations in India

-Air pollution act; noise pollution act; water pollution control act etc
Critical analysis of the implementation of the EH legislation*

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Name of the Academic Program - Master of Public Health (MPH)

Unit VII. Gender, women and work; women and occupational health

Occupational health services: Introduction

Health screening procedures (pre-placement examination);

OHS: Identifying hazards at work place

Risk assessment and communication

Ergonomics and work site health promotion

Unit VIII. Introduction to the burden of Occupational health

Definition, Concepts (industrial health, industrial medicine and occupational health)

Unit IX. Occupational health hazards: Diseases due to temperature

-heat exhaustion, heat cramps, heat stroke, cold related hazards

-Acclimatization

-Personal protective measures

Asbestosis, coal workers lung diseases, silicosis, byssinosis

Metal exposures diseases

- health effects of exposure to uranium, mercury, lead

Exposures to organic and inorganic chemicals

- diseases associated with hydrocarbons and other solvents

Coal mine workers; cotton industry workers;

Unit X. Occupational health legislations in India and its real implementation

Indian Factories Act

Employee State Insurance Act

Reference Books:

1. Occupational Safety and Health: Fundamental Principles and Philosophies
by Charles D. Reese
2. Industrial and Occupational health (pb 2017) by Haldar
3. Industrial Relations and Labour Legislation by Sharma R.C.
4. Industrial Safety, Health and Environment Management Systems by R. K. Jain and Sunil S. Rao
5. Healthy City Planning: From Neighbourhood to National Health Equity (Planning, History and Environment Series) by Jason Corburn
6. The Health Practitioner's Guide to Climate Change: Diagnosis and Cure (Earthscan: Climate) by Jenny Griffiths, Mala Rao, et al.
7. Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks by Regina E. Lundgren and Andrea H. McMakin

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU 452	Title of the Course: Quantitative Research Methods and Data management
L-T-P: Theory	Semester II/ Credits: 4
Prerequisite Course / Knowledge (If any): Basic Epidemiology and Basic Biostatistics	

Course Learning Outcomes (CLOs)

After completion of this course successfully, the students will be able to.....

CLO-1 - Select a research topic and develop a research question, objectives and a research statement

CLO-2 – Identify research gap in any given field by carrying out literature review

CLO- 3- Demonstrate the ability to use appropriate methods for writing a research proposal

CLO-4 -Write a simple research proposal

CLO-5 -Examine and apply the ethical issues involved in research

CLO-6- Use appropriate statistical software packages to analyze and interpret the data

CLO-7- Study critically public health articles published in peer-reviewed journals

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	2	3	2	2	3	1	2	2	2	3	3	1
CLO2	3	3	2	3	3	3	2	3	2	3	3	1
CLO3	2	3	1	2	3	1	1	3	1	3	3	2
CLO4	2	2	2	3	3	2	1	3	2	3	3	2
CLO5	1	2	2	1	1	1	1	1	1	3	3	3
CLO6	1	3	1	1	3	1	1	2	1	2	3	1
CLO7	3	3	2	3	2	3	2	2	2	3	3	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Detailed Syllabus:

Unit I

- Research – Building blocks
- Research – Fundamental characteristics of good research
- Developing a research question and problem statement
- Ethical Issues Research Process / plan your research.

Unit II

- Literature search techniques and Literature review
- Data variables and sources and surveys
- Developing SMART objectives

Unit III

- Methods
- Study Designs
- Sample Size
- Sampling
- Data Collection Tools

Unit IV

- Writing a research protocol
- Exploratory Data analysis(EDA)
- Inferential Statistics
- Critical appraisal of articles
- Report Writing

Unit V

- Data Management
- Update and retrieve Data from data base management system (DBMS)
- Generate reports
- Retrieve data from tables or Views
- Combine data from tables or views
- Create Tables, Views and Indexes

- **Reference Books:**

1. Hulley, S.B. ed., 2007. Designing clinical research. Lippincott Williams & Wilkins, p.386
2. Fathalla, M.F. and Fathalla, M.M., 2004. A practical guide for health researchers. World Health Organization, Regional Office for the Eastern Mediterranean, p. 235
3. Aday, L.A. and Cornelius, L.J., 2006. Designing and conducting health surveys: a comprehensive guide. John Wiley & Sons, p.546
4. Abramson, J. and Abramson, Z.H., 2011. Research methods in community medicine: surveys, epidemiological research, programme evaluation, clinical trials. John Wiley & Sons.p.409
5. Rajvir, B., 2009. Text book of Public Health and Community Medicine. Pune: Department of community medicine, Armed Forces Medical College, pp.60-308.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Name of the Academic Program: Master of Public Health (MPH)

Course Code: MPH- PU 527

Title of the Course: Ageing and Health

L-T-P: Theory

Semester II/Credits 4

Prerequisite Course / Knowledge (if any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1. Examine ageing process and physiological, functional, cognitive declines associated with ageing

CLO-2. Explain demographic and social transitions associated with Ageing

CLO-3. Identify the role of family and classify the personal and social determinants of active ageing

CLO-4. Analyse the nutritional, functional and psycho social challenges of geriatric population and the status of social support available for older population

CLO-5. Assess Health needs and health seeking behaviours in older population

CLO-6. Develop an inter-disciplinary approach for the public health challenges and rehabilitation in community geriatrics

CLO-7. Evaluates the Schemes, Policies, Programs for the Older populations in India and constructs ethical solutions

CLO-8. Design evidence based and gender sensitive strategies for geriatric health care and research.

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	1	3	1	2	1	2	2	1	1	2	3	2
CLO2	2	3	1	3	2	1	3	2	2	2	2	2
CLO3	2	3	2	1	2	3	1	2	2	1	1	2
CLO4	3	3	2	2	2	3	2	2	2	1	2	3
CLO5	3	3	2	3	2	2	2	2	2	2	2	2
CLO6	3	3	2	2	3	3	2	3	3	2	2	3
CLO7	3	3	3	3	3	2	3	3	3	3	3	2
CLO8	3	3	2	3	3	3	3	3	3	3	3	3

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

Section I

Unit 1: Concepts of Ageing;

- 1.1. Ageing process, Physiology of Ageing, Ageing-challenges
- 1.2. Social determinants of ageing.
- 1.3. Senescence, Physiological and functional changes in relation to ageing.

Unit 2: Introduction to Social Gerontology;

- 2.1. Ageing, Society– Perspectives of society and ageing;
- 2.2. Demographics, Socio-cultural perspectives in ageing;
- 2.3. Social capital, family as a primary system for care

Unit 3: Ageing and Mental Health

- 3.1. Determinants and components of mental health and psychological wellbeing in older populations
- 3.2. Communicating with older population
- 3.3. Elder Abuse & Neglect
- 3.4. Sleep and the Older Adult

Unit 4: Active and Healthy Ageing

- 4.1. Types of ageing; Theories of ageing
- 4.2. Active ageing process; Components, principles, determinants and pillars of active ageing.
- 4.3. Factors associated with functional health; Fall risk in older people, Strategies for active and healthy ageing
- 4.4. Health needs and health seeking behaviours in older

Section II

Unit 5: Community Geriatrics

- 5.1. Public health challenges of geriatric care
- 5.2. Preventive geriatrics, rehabilitation
- 5.3. Disability issues, Perceived health and QOL
- 5.4. Community rehabilitation for Older adults

Unit 6: Schemes, Policies and Programs for the seniors

- 6.1. Rights of Older populations and social transition
- 6.2. Maintenance and welfare act for elderly, NPHCE
- 6.3. Schemes, Policies, Programs for the Older populations in India and need for intersectoral coordination for geriatric care

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Unit 7: Building Gender sensitive and Age-friendly societies

- 7.1. Gender and Ageing
- 7.2. Nutrition and Aging
- 7.3. Community and social care practices for older people

Unit 8: Case studies, end of life care, challenges of social integration.

- 8.1. Case studies, Public health issues, challenges of social integration.
- 8.2. Case studies n Ethical issues in geriatrics
- 8.3. Discussion and seminars on thematic issues of ageing, Conducting research with ageing and End of Life issues

References:

1. Andrew Scharlach and Amanda Lehning (2016). Creating aging-friendly communities. Oxford University Press
2. Brocklehurst's Textbook of Geriatric Medicine and Gerontology, 7th Edition (2010).
3. Ronni Chernoff's Geriatric Nutrition (2010). The Health Professional's Handbook 4th Edition
4. O.P. Sharma (2012). A *Textbook of Geriatrics & Gerontology*, 3rd edition.
5. Ministry of health and family welfare. New Delhi: Director General of Health Services, MOHFW, Government of India; 2011. National Program for Health Care of the Elderly (NPHCE): Operational Guidelines 2011.
6. Central Statistics Office. New Delhi: Central Statistics Office Ministry of Statistics and Programme Implementation, Government of India; 2011. Situation Analysis of the Elderly in India.
7. Central Statistics Office. New Delhi (2006) . National Sample Survey Organization, Ministry of Statistics and Programme Implementation, Government of India.
8. Morbidity, Health Care and the Condition of the Aged. NSSO (64th round) Jan-June 2004.
9. Colleen Keller & Julie Fleury. Health Promotion for the Elderly (2012). SAGE Publications, Inc
10. National Programme for the Health Care of the Elderly (NPHCE): An approach towards active and healthy ageing. Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India. 2011.
11. National Programme for Health Care of the Elderly. India current affairs (2011). A leading resource of online information of India.
12. Olshansky, S.J. & B.A. Carnes. 2009. "The future of human longevity." Pp. 731-745 in *International Handbook of Population Aging*: Springer.
13. Jagger, C. 2006. "Can we live longer, healthier lives?" Pp. 7-22 in *Longer Life and Healthy Aging*, edited by Y. Zeng. New York: Springer.
14. Moen. 2013. New Directions in the Sociology of Aging. National Academy of Sciences.
15. Hermalin, A.I. et al. 2007. "Future characteristics of the elderly in developing countries and their implications for policy." *Asian Population Studies* 3(1):5-36.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: MPH- PU 451

Title of the Course: Sociology of Health, Sickness, Disease and Healing

L-T-P: Theory

Semester II/ Credits 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1. Describe the fundamental concepts of health, society and socialization

CLO-2 Examine the ways in which social and cultural factors affect illness outcomes and health care practices.

CLO-3 Analyze how age, sex, race/ethnicity, social class, and other socio-demographic characteristics shape health and illness over the life course

CLO-4 Compare major historical and current issues related to health, society and health care dimensions.

CLO-5 Critically evaluates how a society's views on health and medical care fit within its broader cultural and structural perspectives.

CLO-6 Develop research methods based on social epidemiology for promoting health and social wellbeing.

CLO-7 Design socio-economic explanations for health inequalities in morbidity and mortality in relation to social divisions (including gender, diversity, disability, sexuality) that may impact health research and health outcomes.

CLO-8 Construct social models of health in changing public health dimensions.

Mapping of Course Learning Outcomes (CLOs)with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	1	3	1	2	2	2	2	2	2	1	3	2
CLO2	2	3	2	3	2	2	3	2	2	1	2	2
CLO3	2	3	2	2	2	3	2	2	2	2	2	2
CLO4	2	3	2	2	2	3	2	2	2	2	2	3
CLO5	2	3	2	3	3	3	2	3	2	2	3	2
CLO6	3	3	3	2	3	3	2	3	2	3	2	3
CLO7	3	3	3	3	3	2	3	3	3	3	3	3
CLO8	3	3	2	3	3	3	3	3	3	2	2	3

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping.

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Name of the Academic Program - Master of Public Health (MPH)

Detailed Syllabus:

Section I;

Unit 1: Overview of Sociology of Health; Health in a Social Context - Thinking about health – Diseases, illness and sickness

- 1.1. Concepts and definitions of health, illness, sickness and disease
- 1.2. Towards a social model of health; family in Health and disease
- 1.3. Social and cultural factors impacting individual Health and Disease

Unit 2: Indian Context - Social and Community health;

- 2.1. Sociology of health in Indian perspectives and global reflections
- 2.2. Illness as metaphor; Language of sickness and Suffering.
- 2.3. Illness behaviours and Health Behaviour models

Unit 3: Sociological Theory: Conceptual Issues

- 3,1, Health - human Interaction
- 3.2. The 'Doing' of Social Life; System, Structure, Rationality:
- 3,3, Stages and Theories of Sickness; Human-social relationships, Health Models and theories

Unit 4: Determinants and Dimensions of health;

- 4.1. Determinants and indicators of health
- 4.2. Dimensions of Health, illness, wellness, and wellbeing.
- 4.3. Medicalization of social problems.

Section II.

Unit 5: Social Epidemiology; Social Models of Health.

- 5.1. Socio-demographic variables; Deviance – The Sick Role –Stratification and Health
- 5.2. Psychological modes of health care utilization
- 5.3. Illness as a Social Deviance – The functionalist approach

Unit 6: Medical pluralism:

- 6.1. Concept of medical Pluralism
- 6.2. Philosophical Roots and Historical Understanding.
- 6.3. Why does it matter?

Unit 7: Health, Medicine and Society-

- 7.1. Social Psychology and Mental Health; Social Behaviour – Social Cognition , Attitude – formation and change, theories
- 7.2. Gender and Society
- 7.3. Methods of Sociological Research

Unit 8: Health policies and programs; Challenges of equity; Case studies, Seminar discussions on Women's Health, Mental Health, Disability, Social Ethics, Ageing and Social factors impacting health in life course. Qualitative approaches to sociology of health.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Teaching methods: Didactic, Interactive, Problem based Teaching-Learning methods, Case study discussions and self-directed reading and learning. Class Presentations and critical appraisal of policies, published reports and articles.

Assessment and Evaluation: Formative as different methods of internal assessments and summative as written end semester examination.

Reading References:

1. Germov, J & Hornosty, J. (Eds.) (2017). *Second Opinion. An Introduction to Health Sociology*. Don Mills: Oxford University Press.
2. Crosby, Christina. 2016. *A Body Undone: Living on After Great Pain*. New York: NYU Press.
3. Reich, Jennifer. 2016. *Calling the Shots: Why Parents Reject Vaccines*. New York: NYU Press.
4. Shostak, Sara. 2013. *Exposed Science: Genes, the Environment, and the Politics of Population Health*. University of California Press.
5. Skloot, Rebecca. 2011. *The Immortal Life of Henrietta Lacks*. New York: Broadway Books.
6. Szreter, Simon. "Rethinking McKeown: The relationship between public health and social change." pp 722-4.
7. Phelan, Link, and Tehranifar, 2010, "Social Conditions and Fundamental Causes of Health Inequalities: Theory, Evidence, and Policy Implications." *Journal of Health & Social Behavior*.
8. Williams, David R. and Michelle Sternthal. 2010. "Understanding Racial-Ethnic Disparities in Health: Sociological Contributions." *Journal of Health and Social Behavior* 51: S15-27.
9. Read, Jen'nan Ghazal, and Bridget K. Gorman. 2010. "Gender and Health Inequality." *Annual Review of Sociology*. 36: 371-86.
10. Conrad, Peter. *The Shifting Engines of Medicalization*, In *Sociology of Health and Illness*, edited by Peter Conrad and Valerie Leiter.
11. Annandale Allen (2001). *The Sociology of Health and Medicine- A Critical Introduction*. Polity Press. pp.3-32.
12. Blaxter, Mildred. (2010). *Health*. Cambridge: Polity Press. pp4-27.
13. Kevin, White (2002). *An Introduction to the Sociology of Health and Illness*. Sage Pub. Pp 1-13, 32-45.
14. Das, Veena (2015). *Affliction: Health, Disease and Poverty*. Hyderabad: Orient Blackswan.
15. Jewson, N.D. (1976). "The Disappearance of the Sick Person from Medical Cosmology 1770-1870" , *Sociology*. Vol.10 (pp225-244)
16. Sontag, Susan (1990). *Illness, and its Metaphors*. London: Penguin. Pp.1-86.
17. Young Allan (1982). *Anthropologies of Illness and Sickness*. *Annual Review of Anthropology*, 11, pp. 257-285.
18. Frank, Arthur (1997). *The cost of Appearance*. In Gail, E. H. et al (ed.). *The Social Medicine Reader*. Duke University Press
19. V. Sujata : *Sociology of Health and Medicine: New Perspectives*, OUP, 2014
20. V. Sujata, Leena Abraham : *Medical Pluralism in Contemporary India*, Orient Blackswan 2012.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU524	Title of the Course: Qualitative Health Research- Elective
L-T-P: Theory	Semester III/ Credits: 4
Prerequisite Course / Knowledge (If any): As per the course eligibility requirement	

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO1: Distinguish among research methodologies used in a variety of qualitative approaches - observation, interviews and focus group discussions.

CLO-2: Develop research questions, select a method, and construct a plan for answering the question(s);

CLO-3: Choose the appropriate method for generating the data in any given qualitative study;

CLO-4: Demonstrate skills in coding the data;

CLO-5: Analyse the data using the appropriate method for any given qualitative study;

CLO-6: evaluate critically the advantages and disadvantages of qualitative methods for health research

CLO-7: Communicate the results of qualitative research in the form of research papers.

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	3	3	3	3	3	2	2	2	2	2	2
CLO2	3	3	3	3	3	3	2	3	3	2	2	2
CLO3	3	3	2	2	2	3	2	2	2	2	2	2
CLO4	3	3	3	2	2	3	2	2	2	2	2	2
CLO5	3	3	2	2	2	3	2	2	2	2	2	2
CLO6	3	2	2	2	3	2	2	2	2	2	2	2
CLO7	3	2	3	3	3	2	2	2	2	2	2	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Detailed Syllabus:

Unit 1: Introduction to Qualitative research

Unit 2: Sampling in Qualitative Research

Unit 3: Commonly Used Qualitative Methods – In-depth Interview, Social Mapping, seasonal Diagram, Pair wise ranking, Cobweb diagram, Trend analysis, force field analysis and Focus Group Discussion.

Unit 4: Techniques of data Collection

Unit 5: Analysis of Qualitative data

Unit 6: Combining Qualitative and Quantitative methods

Unit 7: Ethical issues in Qualitative research

Unit 8: Using Qualitative software

Reference Books:

1. Judith Green and Nicki Thorogood (2018) – Qualitative Methods for Health Research- 4th Edition – Sage Publishers.
2. Catherine Pope – Qualitative Research in Health Care – 3rd Edition - Blackwell Publishers - BMJ Book.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU 502	Title of the Course: Health Economics and Financing
L-T-P – Theory	Semester III/Credits: 4
Prerequisite Course / Knowledge (If any): Basics of Health Policy & Sociology of Health	

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO1: To get sensitized to the common concepts used in Health Economics.

CLO2: To understand the role of health economics in wellness and development.

CLO3: To get an overview of the techniques of economic evaluation for health.

CLO4: To explore how health economics could be applied to own situation

CLO5: To get an understanding of Health Care Financing

CLO6: To understand the role of Health Financing in Universal Health Coverage

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	1	3	2	1	2	1	3	1	1	1	3
CLO2	3	2	3	1	2	1	2	2	2	1	2	1
CLO3	3	3	3	3	1	3	2	1	1	1	1	1
CLO4	3	3	3	3	2	3	3	1	2	1	3	1
CLO5	3	3	3	2	2	2	2	2	1	1	1	3
CLO6	3	2	3	1	2	1	3	3	3	2	2	1

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

UNIT 1 – Introduction to Health Economics

- Introduction to Economics and terminology including theories
- Health Economics – An Introduction
- Terminology used in Health Economics
- Health Economics as part of Development

UNIT 2 – Micro and Macro Economics and Health Care

- Introduction, Micro & Macro Environment
- Preventive Healthcare vs Curative Healthcare
- Relevance of Healthcare in Developing Economies

UNIT 3 – Valuing Costs and Consequences

- Understanding costs
- Understanding outcomes
- Measuring and Valuing costs and outcomes

UNIT 4 – Economic Evaluation

- What is Economic Evaluation?
- What are the types of economic evaluations?
- Perspectives in Economic Evaluation
- Economic Evaluation in conditions that affect us
- How to develop a framework for economic evaluation?
- Discounting
- Sensitivity Analysis
- Reading and understanding economic evaluation literature
- Working on own data for an economic evaluation.

UNIT 5 – Health Financing

- Health Financing an introduction
- Universal Health Coverage

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

- Health Insurance – the basics

UNIT 5 – National Health Accounts

- National Health Accounts
- Health care sector and Institutional Intervention
- Public Private Partnership in Healthcare

UNIT 6 – Advanced Health Economics

- Uncertainty analysis
- Incremental Analysis
- Econometric models
- Cost-it and other software applications

Reference Books

1. Health Economics for Developing Countries: A Survival Kit Anne Mills, Lucy Gibson, LSHTM, UK
2. Mike Drummond et al; Methods for the Economic Evaluation of Health Care Programmes. 4th edition, 2015, Oxford University Press.
3. Disease Control Priorities in Developing Countries, World Bank Publications, <http://www.dcp-3.org/economic-evaluations>

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: MPH- PU 528

Title of the Course: Ethics in Health care and Research

L-T-P: Theory

Semester III/ Credits 2

Prerequisite Course / Knowledge (if any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1. Examine the ethical principles related to the conduct of human subject research

CLO-2. Devise the framework for ethical challenges encountered in human subjects' research

CLO-3. Analyze the commonly encountered ethical conflicts and resolutions in research and practice

CLO-4. Develop measures of presenting arguments and results of ethical inquiries.

CLO-5. Identify the regulations and guidelines of IRB in human subject research and composition of ethics committees

CLO-6. Develop ethical constructs for individual research projects, and critically reflect on research article review.

Mapping of Course Learning Outcomes (CLOs)with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	2	3	1	2	3	3	2	1	1	3	3	2
CLO2	2	3	1	3	3	2	3	2	2	3	2	2
CLO3	3	3	2	2	3	3	3	3	2	3	2	3
CLO4	3	3	2	3	2	3	2	2	2	3	3	3
CLO5	3	3	3	3	3	2	2	2	3	3	3	3
CLO6	3	3	2	3	3	2	2	3	2	3	3	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Detailed Syllabus:

Unit 1: Overview of Ethics in Health care & Research.

- 1.1. Historical background of Morality, Philosophy and Ethics; meaning, concepts
- 1.2. Good Clinical Practice in Health care; ethical principles
- 1.3. Historical evolution of Bioethics, Codes, covenants and guidelines

Unit 2: Ethics Principles

- 2.1. Primary principles and complementary principles
- 2.2. Ethical principles in Human subjects' research
- 2.3. Challenges in Health, Social and Behavioural research

Unit 3: Informed Consent;

- 3.1. Informed component, components
- 3.2. What Contributes informed consent, process & procedure?
- 3.3. Relevance and Responsiveness in Research

Unit 4: Privacy and Confidentiality:

- 4.1. Challenges in Maintaining Privacy in Our Settings;
- 4.2. Mechanisms to Address Challenges to Privacy and Confidentiality
- 4.3. Privacy, Confidentiality and integrity in social behavioural-health research

Unit 5: Ethical considerations in health research;

- 5.1. Ethical considerations in Health research in vulnerable populations
- 5.2. Conflict of interest in participation in research
- 5.3. Risk- benefit assessment of participation in research

Unit 6: Good Research Practice;

- 6.1. Research integrity and scientific misconduct:
- 6.2. Honesty in Science: Integrity and Authorship and Conflicts of interest
- 6.3. Ethical Review Committee procedures

Teaching methods: Didactic, Interactive, Problem based Teaching-Learning methods, Case discussions, self-directed reading and learning. Class Presentations, and critical appraisal of published reports and articles.

Assessment and Evaluation: Formative as different methods of internal assessments and summative as written end semester examination.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

References:

1. Tom L. Beauchamp and LeRoy Walters, eds., *Contemporary Issues in Bioethics*. (Belmont, Calif.: Wadsworth Publishing Company, 1982.) Cited as B-W. Rachels, James. 2006.
2. *The Elements of Moral Philosophy*, 5th edition, McGrawHill. Beauchamp, Tom L. and Childress, James F. 2001. *Principles of Biomedical Ethics*, 5th ed., Oxford University Press
3. Ackerman, Sandra J. 2006. *Hard Science, Hard Choices: Facts, Ethics, and Policies Guiding Brain Science Today* (Dana Foundation Series on Neuroethics), Dana Press.
4. The Menlo Report. *Ethical Principles Guiding Information and Communication Technology Research*.
5. See E. E. Morrison, *Ethics in Health Administration*, 2nd ed. (Sudbury, MA: Jones and Bartlett, 2011), 48.
6. D. Goleman, "The Roots of Compassion," *New York Times*, December 19, 2006. Retrieved from;
<http://happydays.blogs.nytimes.com/2006/12/19/the-roots-of-compassion/?8ty&emc=ty>.
7. T. L. Beauchamp and J. F. Childress, *Principles of Biomedical Ethics*, 5th ed. (New York: Oxford University Press, 2001) point out this early history on page 166.
8. Robert Nozick, in *Anarchy, State, and Utopia* (New York: Basic Books, 1974), 149–150,
9. M. A. Roser, "Don't Cut State Drug Funds, AIDS, HIV Patients Plead," *Austin-American Statesman*, January 17, 2003, B1, B6.
10. See L. Wenar, "Rights," *Stanford Encyclopedia of Philosophy*, 2011. Retrieved from <http://plato.stanford.edu/entries/rights/>. Accessed November 29, 2011.
11. M. E. Mahoney, "Medical Rights and the Public Welfare," *Proceedings of the American Philosophical Society* 135, no. 1 (1991): 22–29, especially 23.
12. Beauchamp and Childress, *Principles of Biomedical Ethics*, 5th ed., Chap. 9, especially 389–390.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU 522	Title of the Course: Public Health Disability- Elective
L-T-P – Theory	Semester III/Credits: 4
Prerequisite Course / Knowledge (If any): As per the course eligibility requirement	

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1 – Demonstrate understanding of public health disability and its relevance to the Sustainable Development Goals

CLO-2 – Discuss Public health approach to reduce the burden of disability

CLO-3 - Compare various models and conceptual frameworks to define disability and their application in assessment of disability

CLO-4 - Identify and interpret key sources of data on Disability at global, National and local levels

CLO-5 - Describe and interpret the links between disability, health and wellbeing

CLO-6- Discuss Community Based Rehabilitation (CBR) and develop strategies to address the needs of People with Disabilities

CLO-7- Identify solutions to improve health and wellbeing amongst people with disabilities

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	3	2	2	1	1	1	1	3	1	3	2
CLO2	3	3	3	3	2	3	2	2	3	1	3	3
CLO3	3	3	2	3	2	2	2	3	3	1	3	2
CLO4	2	2	2	3	2	3	1	1	3	1	3	2
CLO5	3	2	2	2	2	3	3	2	3	2	3	2
CLO6	3	3	3	3	2	3	2	3	3	2	3	3
CLO7	3	2	3	3	2	3	2	2	3	1	3	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Detailed Syllabus:

Unit 1: Introduction: Disability, History of Disabilities and Public Health approach to Disability

- Introduction to Public Health Disability
- What is Disability
- How Disability has been perceived through History
- Public Health Approach to Disability

Unit 2: Defining Disability , Models and conceptual framework of Disability

- Disability facts - Globally and within India -
- Definition of Disability and Introduction to Models of Disability
- Different Conceptual frameworks of Disability
- Introduction to different data sources of Disability
- Data sources of Disability

Unit 3: Epidemiology of Disability

- Introduction to assessing and Diagnosing Disability
- Disability surveys , survey designs, Displaying disability survey data
- Determinants of disability
- Developing preventive strategies
- Disability disparities - Disability poverty cycle

Unit 4: Managing Disability

Community based Rehabilitation and Public Health approach

Public resources and services for disabled

Disability policy

human Rights and Advocacy for disabled , inclusion programs for disabled

SWOT analysis on disability services and rights for disabled in India

Reference Books:

1. World Health Organization, 2008. *Training Manual on Disability Statistics*. United Nations Publications.
2. Marg, S., 2016. Disability statistics.
3. World Health Organization, 2002. Towards a common language for functioning, disability, and health: ICF. *The international classification of functioning, disability and health*.
4. World Health Organization, 2011. *World report on disability 2011*. World Health Organization.
5. Albrecht, G.L., Seelman, K.D. and Bury, M. eds., 2001. *Handbook of disability studies*. Sage Publications.
6. Lollar, D.J. and Andresen, E.M. eds., 2010. *Public health perspectives on disability: epidemiology to ethics and beyond*. Springer Science & Business Media.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU 501

Title of the Course: Public Health Nutrition

L-T-P: Theory

Semester III/ Credits: 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1. Impart knowledge on the importance of nutrition during life span

CLO-2. Recognize the importance of macro and micro nutrients and its metabolism

CLO-3. Compute recommended daily allowances of vitamins and minerals

CLO-4. Familiarize with the community development programmes in the field of nutrition

CLO-5. Critically analyze policy implications on nutrition of vulnerable groups

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	1	3	1	2	1	1	2	1	2	2	1	2
CLO2	1	3	2	3	1	2	2	1	1	1	1	2
CLO3	1	1	3	1	1	1	1	1	1	1	1	1
CLO4	1	1	1	1	3	2	2	1	1	3	2	3
CLO5	2	2	2	1	2	3	2	2	2	2	2	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

NUTRITION THROUGH DEVELOPMENTAL STAGES

UNIT — I Concept of different food groups, Recommended Dietary Allowances for Indians, basis for requirement, computation of allowance. Nutrition in pregnancy- Stages of gestation, maternal physiological adjustments, weight gain during pregnancy and nature of weight gain, nutritional requirements, storage of nutrients, physiological cost of pregnancy, complications of pregnancy.

UNIT — II Nutrition in Lactation - Physiological adjustments during lactation, Hormonal controls and reflex action, lactation in relation to growth and Health of infants,

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physiology of milk production, problems of breast feeding, nutritional components of colostrum and mature milk, special foods during lactation, nutritional requirements during lactation, implications of public health programmes.

UNIT – III Nutrition in infants-rate of growth, weight as the indicator, premature infant feeding premature infants, low birth weight, breast Vs bottle feeding, nutritional allowances, supplementary feeding, weaning foods. Nutrition in preschool children-growth and development of preschool children, prevalence of malnutrition (vitamin A infection, anemic and IDD) in preschool age, food habits nutritional requirements supplementary foods, feeding programmes for preschool children.

UNIT–IV Nutrition in school age-Early and middle childhood physiological development, food habits, nutritional needs and feeding. RDA, foods habits and intervention programmes and its implications. Nutrition during adolescence – Physical growth, physiological and psychological problems associated with pubertal changes, nutritional needs, eating disorders – anorexia, bulimia, adolescent pregnancy and its complications.

UNIT – V Nutrition during adulthood: Nutrition and work efficiency, Basis for requirements, RDA. Nutrition during old age – Physiological and psychological changes during old age. Common health problems, nutritional requirement, modification in diet, feeding in old age.

MICRO AND MACRO-NUTRIENT METABOLISM.

UNIT I: Energy - Energy content of foods, Energy measurement Direct and indirect calorimetry Energy utilisation in cell, basal metabolism, physical activity, regulator Thermogenesis. Energy requirement, variables which influence the energy requirement, energy balance and control of body weight, the share of three main energy nutrients - carbohydrate, protein and fat.

UNIT II: Carbohydrates - Classification, Digestion, Absorption and utilisation of carbohydrates. Dietary Fibre - Definition, Types of fibre in plan food, sources, composition, digestion, Role of dietary fiber in therapeutic nutrition, Effect of fibre in the absorption of different nutrients, effects of over consumption of fibre.

UNIT -III: Protein - Classification of protein and Aminoacids protein synthesis, function, digestion, absorption utilisation, factors affecting protein utilisation, protein requirement, Evaluation of protein quality, protein deficiency, prevalence, cause and treatment, role of animal protein and vegetable protein mixture in compacting malnutrition requirement. Amino acid - classification, requirements balance and imbalance.

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UNIT - IV Fats and lipids- Classification of fat and fatty acid, Digestion and absorption of fats, lipid transformation in the liver, lipotropic factors Deposition of fat in the body, Role of essential fatty acid, effect of deficiency and toxicity, role of fat in the etiology of atherosclerosis.

UNIT - V Hormone and Nutrient interaction. Interaction over carbohydrates protein and fat metabolism. Nutrition in alcoholism- effect of alcohol on digestion and absorption of nutrients alteration of nutrient metabolism and organ damage.

UNIT – VI Micronutrients, their role, deficiencies and programmes for supplementation.

COMMUNITY NUTRITION

UNIT – I Relation of nutrition to development in terms of socio economic, industrial and agricultural development. consequences of malnutrition and prevalence of common nutritional problems - PEM, vitamin A deficiency disease, anemia, iodine deficiency disorders and flurosis, etiological factors leading to malnutrition. Synergism between malnutrition and infection. Measures to overcome

UNIT - II Meaning, nature and importance of nutrition education to the community. Qualities of training workers in nutrition education programmes, integration of nutrition with education and extension work. Methods of education, when to teach, whom to teach. Principles of planning, executing and evaluating nutrition education programmes, problems of nutrition education

UNIT III: Assessment of nutritional status: Direct method - Anthropometry, biochemical biophysical and clinical assessment. Indirect method – Dietary Survey, Vital statistics.

UNIT IV: Nutrition Intervention programmes in India: Genesis objectives and operation of National Anaemia Control. Prophylaxis Programme, National Goitre Control Programme, Vitamin A Prophylaxis Programme, School Lunch Programme, CMNMP, ICDS, TINP, National Nutrition policy - thrust areas and implementation at national level Impact of national policy on food security. Primary health center (PHC) - Concept, organization, current status in India and delivery of service, Taluk level hospital, employees state insurance (ESI) and immunization.

UNIT- V: National & International organization concerned with food and nutrition - ICMR, NIN, NNMB, CFTRI, DFRL, NIPCCD, ICAR. International organization concerned with food and instuition - FAO, WHO, UNICEF, World Bank, UNESCO.

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Name of the Academic Program - Master of Public Health (MPH)

Reference Books:

1. Dietary Guidelines for Indians-A Manual, National Institute of Nutrition, Indian Council of Medical Research (ICMR Centenary Year Celebrations)
2. Shills, E.M., Olson, A.J and Shike, Lea and Febiger, Modem Nutrition in health and disease.
3. Frances, J. Zeman (1983), Nutrition and Dietetics.
4. Srilakshmi, B (2003), Dietetics, New age International Pvt. Ltd.
5. Srilakshmi, B (2003), Nutrition science, New age International Pvt. Ltd.
6. Summerfied (Liane, M), Nutrition, Exercise and Behaviour: An integrated approach to weight management.
7. Vidya. C. Bhaskar Rao. D. A Text Book of Nutrition Discovery Publishing House, New Delhi.
8. Beaton, GH. & M. C. Henry, E. W (1996) Nutrition: A Comprehensive Treatise. Vol III Academic Press, New York.
9. Bandilla R. K. (1992) food problems in India. Ashish publishing House.
10. Water Low J. C (1992) Protein in Energy Malnutrition Edward Arnold, London. 23
11. Vinodini Reddy., Pralhad Raj., Gowrinath sastry, J find Kashinath, K.C. (1993), Nutrition Trends in India, NIN, Hyderabad.
11. Park and park (2018), Text book of preventive and social medicine, Banarsidas published by Jabalpur.
12. Jelliffee, D.D and Pathes (1989), Assessment of Nutritional status of community, WHO, Geneva.
13. Proceeding of the Nutrition society of India (1999), Vol (35,42,43,44,46 and 47), NIN, Hyderabad.
14. Sarah Gopalan (1996),Towards better Nutrition for women and children problems and programmes, Development of women and child development Government of India.
15. Bagehi, K (1987), Evaluation of nutrition education nutrition monitoring and assessment, Editors - Gopaldas, T and Seshadris, Oxford University press, 30

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU578

Title of the Course: NCD Epidemiology- Elective

L-T-P: Theory

Semester IV/ Credits: 2

Prerequisite Course / Knowledge (If any): Basic Epidemiology

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1: discuss the global burden of the most common non-communicable chronic diseases.

CLO-2: Explain the ways in which global and population level forces are shaping the distribution of risk factors and disease occurrence.

CLO-3: Explain the impact of diet and exercise on the global burden of non-communicable diseases.

CLO-4: evaluate Critically secular and geographic trends in common NCDs, the causes of these trends and their contribution to overall disease burden

CLO-5: discuss the approaches to the surveillance, prevention and control of the most common chronic diseases.

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	2	3	3	3	2	3	2	2	2	2	2
CLO2	2	3	2	2	2	2	2	2	2	2	2	2
CLO3	3	3	3	3	3	3	2	2	2	2	2	2
CLO4	3	2	3	3	3	2	3	2	2	2	2	2
CLO5	3	2	3	2	3	3	2	2	3	2	2	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

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Name of the Academic Program - Master of Public Health (MPH)

Detailed Syllabus:

Unit 1: Introduction to NCD Epidemiology.

Unit 2: Overview of NCDs and its Risk Factors

Unit 3: Cardiovascular diseases (CHD, HTN, Stroke and RHD)

Unit 4: Type 2 diabetes and Obesity

Unit 5: Cancer epidemiology

Unit 6: Blindness and NPCB

Unit 7: Accidents and Injuries

Unit 8: Mental health (Depressive disorder and schizophrenia)

Unit 9: Emerging issues and ongoing challenges of non-communicable diseases

Unit 10: National Programme for prevention and control of Cancer, Diabetes, Cardiovascular diseases and stroke (NPCDCS)

Unit 11: COPD and Chronic Kidney Disease (CKD)

Reference Books:

1. Park's - Textbook of Preventive and Social Medicine.
2. Jugal Kishore. Textbook of National Health Programmes: National Policies & Legislation related to Health.
3. CDC - Global Health protection – NCD Training Modules.
4. WHO – NCD steps questionnaire
(<http://www.who.int/ncds/surveillance/steps/instrument/en/>)
5. NPCDCS - National Health Programmes in India- (https://www.nhp.gov.in/national-programme-for-prevention-and-control-of-c_pg)
6. GBD 2015 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. Lancet, 2016; 388(10053):1659-1724
7. WHO – Global Action Plan for the Prevention and control of NCD 2013- 2020
8. WHO – Package of Essential NCD interventions for primary health care in low resource settings.

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Name of the Academic Program - Master of Public Health (MPH)

Course Code:	Title of the Course: Disaster Management- Elective
L-T-P: Theory	Credits: 2
Prerequisite Course / Knowledge (If any): As per the course eligibility requirement	

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1: demonstrate basic conceptual understanding of disasters and its relationships with development.

CLO-2: discuss the approaches of Disaster Risk Reduction (DRR) and the relationship between vulnerability, disasters, disaster prevention and risk reduction.

CLO-3: explain Medical and Psycho-Social Response to Disasters.

CLO-4: suggest measures to prevent and control Public Health consequences of Disasters

CLO-5: demonstrate skills to respond to disasters.

CLO-6: identify International Agencies in Disasters Management for international cooperation.

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	2	3	2	2	2	3	2	2	2	2	2
CLO2	3	3	3	3	3	3	3	2	3	2	2	2
CLO3	3	3	2	3	3	3	2	2	2	2	2	2
CLO4	3	2	2	3	2	2	3	2	3	2	3	3
CLO5	3	3	3	3	2	2	2	2	3	2	2	3
CLO6	3	2	3	3	2	2	2	2	2	2	2	2

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

Unit 1: Introduction to disaster

Unit 2: Approaches to Disaster Risk Reduction

Unit 3: Principles of Disaster Medical Management

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Name of the Academic Program - Master of Public Health (MPH)

Unit 4: Public Health Response and International Cooperation

Unit 5: International Agencies in Disaster Management

Unit 6: Disaster risk management in India

Reference Books:

1. Park's - Textbook of Preventive and Social Medicine.
2. Jugal Kishore. Textbook of National Health Programmes: National Policies & Legislation related to Health.
3. Disaster Management Guidelines. GOI-UNDP Disaster Risk Reduction Programme (2009-2012).

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU573	Title of the Course: Maternal and Child Health- Elective
L-T-P: Theory	Credits: 4
Prerequisite Course / Knowledge (If any): As per the course eligibility requirement	

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1 Explain the evolution of MCH Programs in India

CLO-2 Apply various advocacy methods to promote maternal and child health services

CLO-3 Identify the impact of improved MCH management skills on programmatic outcomes

CLO-4 Outline the management aspects relevant to various levels of functioning in MCH

CLO-5 Perform an evaluation of the MCH programmatic activities in their area

CLO-6 Illustrate successful MCH interventions using intersectoral coordination, collaboration and Public private partnership

CLO-7 Appreciate the ethical issues related to RMNCH+A

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	2	2	2	2	2	2	2	3	3	2	2	3
CLO2	3	3	3	3	3	3	2	3	3	2	2	3
CLO3	3	3	2	3	3	3	3	3	3	2	2	2
CLO4	3	3	3	2	3	3	2	3	2	2	2	2
CLO5	3	3	2	2	3	3	2	2	2	2	2	2
CLO6	3	3	2	2	2	2	2	2	2	2	2	2
CLO7	3	3	3	3	3	3	3	3	3	3	3	3

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Detailed Syllabus:

Unit 1: History of Maternal and Child health Programs in India

Unit 2: Scope & Functions of RCH programs

Unit 3: Maternal Mortality: Maternal death audits

Unit 4: Access and utilization of health care under RMNCH+A

Unit 5: Components of adolescent care under RMNCH+A

Unit 6: RMNCH+A for vulnerable groups

Unit 7: Infant Mortality

Unit 8: Neonatal health

Unit 9: Supportive supervision and monitoring in RMNCH+A

Unit 10: Quality of Care in MCH

References:

1. Jugal Kishore. National Health Programmes: National Policies & Legislation related to Health. 7th Edition, 2005
2. IMNCI-Module No. 1-9 (UNICEF-India)
3. State & National PIP documents of RCH-II (Government of India)
4. A Strategic Approach to Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) in India. Ministry of Health & Family Welfare Government of India February 2013
5. Revised operating manual for preparation and monitoring of RCH-II & immunization component of NRHM state programme implementation plans (PIPs). Ministry of Health & Family Welfare Government of India. November 2010
6. Guidelines for Preparation of Annual Programme Implementation Plan National Rural Health Mission. 2018-2019

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU 571 Title of the Course: Health Project Management - Elective

L-T-P – Theory Semester IV/Credits: 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO1: Understand the difference between project, program and portfolio;

CLO2: Understand the Project Cycle Management approach;

CLO3: Develop the capacity to undertake a pre-project analysis;

CLO4: Get an overview of project planning tools and its use;

CLO5: Develop the skills for project implementation

CLO6: Undertake project monitoring, evaluation, impact assessment

CLO7: Be sensitized to concepts of sustainability of health care.

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	3	3	1	1	3	3	3	1	1	1	3
CLO2	3	3	3	1	3	3	3	3	1	3	2	3
CLO3	3	3	3	1	3	3	3	3	1	3	2	3
CLO4	3	3	3	1	3	3	3	3	1	3	2	3
CLO5	3	3	3	1	3	3	3	3	1	3	2	3
CLO6	2	2	2	1	3	2	2	2	1	3	2	3
CLO7	3	3	3	3	1	3	3	3	3	1	1	3

Name of the School / Department / Centre- School of Medical Sciences

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Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Detailed Syllabus:

Unit 1: Introducing the project cycle.

Unit 2: Assessing needs - covering participatory needs assessment, techniques and community involvement.

Unit 3: Planning the project - covering definition of project aims and objectives, tasks involved in project planning, and sequence of events.

Unit 4: Implementing and monitoring the project - covering an introduction to monitoring, and exploration of the role of on-going monitoring in adjusting and refining projects.

Unit 5: Evaluating the project - - covering an introduction to evaluation, interpretation of data, and exploration of reactions to evaluation processes.

Unit 6: Developing Objectives and indicators for M&E, Quantitative and qualitative indicators - Characteristics of indicators, linking indicators to Plans

Unit 7: The nuts and bolts of a Health Management Information System (HMIS) and its use in monitoring, Use of computers in HMIS, HMIS architecture, Informatics System Evaluation/ Socio Technical issues

Unit 8: Learning from the project and evolving - Covering organizational learning, negative impact of failure to learn.

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Name of the Academic Program - Master of Public Health (MPH)

Unit 9: Management of the project cycle - covering issues of organizational structure, and roles and responsibilities including summarizing a project.

Unit 10: Sustaining a project.

Reference Books:

1. EUROPEAN COMMISSION - JOINT RELEX SERVICE FOR THE MANAGEMENT OF COMMUNITY AID TO NON-MEMBER COUNTRIES (SCR), Resources, relations with the other institutions, evaluation, and information, Evaluation, Version 1.0, May 1999 – Project Cycle Management – Training handbook.
2. Centers for Disease Control and Prevention, 1999. *Framework for Program Evaluation in Public Health*. Atlanta, Georgia: Centers for Disease Control and Prevention.
3. Project Management for Healthcare. David Shirley. April 25, 2011 by CRC Press ISBN 9781439819531
4. Cook, T.D. and Campbell, D.T, 1979. *Quasi-Experimentation: Design and analysis issues for field settings*. Boston, MA: Houghton Mifflin Company.

Name of the School / Department / Centre- School of Medical Sciences

Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU 577	Title of the Course: Public Health Practice Field visits
L-T-P – Lab/Practice	Semester IV/Credits: 4
Prerequisite Course / Knowledge (If any): As per the course eligibility requirement	

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1 – Demonstrate understanding of public health infrastructure and health care delivery and its relevance to the Sustainable Development Goals

CLO-2 – Discuss Public health approach to reduce the burden of disease

CLO-3 - Compare various models of health care and social care services and their application to find locally relevant services

CLO-4 - Identify and interpret key sources of data on population health at global, National and local levels

CLO-5 - Describe and interpret the links between universal health coverage, health and wellbeing

CLO-6- Discuss Community Based health care delivery and develop strategies to address the needs of People

CLO-7- Identify solutions to improve health and wellbeing of population at community level

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs) and Program Specific Outcomes (PSOs)

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12
CLO1	3	3	2	2	1	1	1	1	3	1	3	2
CLO2	3	3	3	3	2	3	2	2	3	1	3	3
CLO3	3	3	2	3	2	2	2	3	3	1	3	2
CLO4	2	2	2	3	2	3	1	1	3	1	3	2
CLO5	3	2	2	2	2	3	3	2	3	2	3	2
CLO6	3	3	3	3	2	3	2	3	3	2	3	3
CLO7	3	2	3	3	2	3	2	2	3	1	3	2

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Name of the Academic Program - Master of Public Health (MPH)

Each Course Learning Outcome (CLOs) may be mapped with one or more Program Learning Outcomes (PLOs). Write '3' in the box for 'High-level' mapping, 2 for 'Medium-level' mapping, 1 for 'Low-level' mapping

Field visits are part of the MPH core program. The school recognizes field trips as an essential part of academic course work. A field trip is an off-campus activity, where students will make a summary report of the peripheral health care institution. Field trips will be by the University provided transportation, will begin and end on campus and attendance is mandatory. During the Primary Health Center visit, students will have to do a case study of at least one family with emphasis on exploring the potential health risks and health assets of the family. Individual observations should be documented in the respective field visit report and family case study.

OBJECTIVES

- To comprehend the functioning of different Government and non-Governmental health care and voluntary Organizations.
- To make a summary report of various peripheral health care institutions about their objectives, Functioning, Staffing, and outreach to the society.

GENERAL INSTRUCTIONS

1. Visits will be scheduled on Friday of a week
2. The scheduled visit appointments will be secured from the concerned faculty and student representative shall confirm the scheduled visit and transportation arrangements well before each visit.
3. It is students' responsibility to make arrangements for their food and water during the visit.
4. Please carry your ID card at all times. Groom appropriately and behave professionally.
5. Introduce yourself and provide your ID card wherever required during the visit.
6. During the Visits you should be self responsible and the visit should be focused, based on pre determined objectives to collect appropriated information.

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Name of the Academic Program - Master of Public Health (MPH)

7. A brief report of each visit should be submitted to your PHPractice coordinating faculty soon after your visit
8. Cooperate with the institutional management to facilitate in your learning and teaching during the visit.
9. Be polite and dignified in your communication and never create any inconvenience to the visiting institution or your parent institute due to your visit.
10. Take care while handling the equipments and maintain the dignity in all places, such as class room, canteen, waiting area, corridors and premises of the organization.
11. Be punctual and attend all the visits and always carry your objectives to the visiting institute.
12. Keep visits very focused and manage the time as per the plan.

FINAL REPORT GUIDELINES

Observe and learn about physical layout, functioning, staffing pattern and administrative policies, funding of the organization and include the same information in your reporting.

Write a brief introduction about the institution and its operative and administrative functions.

The students' report will be part of your evaluation along with your punctuality, attendance and discipline being other criteria for evaluation. .

Presentation of the report by the students may be required based on the discretion of the concerned faculty.

EVALUATION

Internal Assessment marks will be allocated based on Attendance/ Report /Presentation of reports. At the end of the visit, students are required to submit a detail consolidated individual report and make presentations on their case study, which are evaluated for summative evaluation.

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Name of the Academic Program - Master of Public Health (MPH)

Course Code: PU 577

Title of the Course: Project Work

L-T-P – Project

Semester IV/Credits: 4

Prerequisite Course / Knowledge (If any): As per the course eligibility requirement

Course Learning Outcomes (CLOs) (5 to 8)

After completion of this course successfully, the students will be able to.....

CLO-1 – Demonstrate ability to identify relevant significant issues relevant to public health research

CLO-2 – Understanding different research approaches and formulate the research topic and conduct public health research

CLO-3 - Systematically collect relevant up-to-date information about the identified research topic , either directly or from published studies or publicly available data

CLO-4 - Analyse, interpret and discuss the information in accordance with standard academic and health research practice

CLO-5 - Draw conclusions and make recommendations relevant to the issue that will contribute to current knowledge and practice in health

CLO-6- Write and present a report in accordance with academic standards at a postgraduate level

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Name of the Academic Program - Master of Public Health (MPH)

Mapping of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)
and Program Specific Outcomes (PSOs)

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CLO3	3	3	2	3	2	2	2	3	3	1	3	2
CLO4	2	2	2	3	2	3	1	1	3	1	3	2
CLO5	3	2	2	2	2	3	3	2	3	2	3	2
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CLO7	3	2	3	3	2	3	2	2	3	1	3	2

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GUIDELINES FOR THE PREPARATION OF PROJECT WORK

The Master of Public Health Program of the University of Hyderabad requires a mandatory fulfilment of a **four (4) credit** task that encompasses the conceptualization, preparation and undertaking of a project in Semester 4 of the MPH coursework.

Definition of a project

The Project has to have a direct or indirect relationship relevant to Public Health. It has to be an independent piece of work of each student. A mandatory project as partial fulfilment of the requirements of 4 credits for the award of MPH degree shall fall under either one of the below mentioned categories. An overlap of more than 1 category is also acceptable. The categories are:

- Any research project following the research methods structure.
- A white paper or policy review.
- A review of an issue of public health importance.

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- An exploratory study in the area of public health.
- A part of a combined large project with more than one investigator.
- A health management issue.
- A systematic review in health studies area.
- A project decided in consultation with the allotted supervisor of the School of Medical Sciences.

Purpose of a project

The purpose of the project is:

- a. To mandatorily fulfil a part requirement for completion and award of the Master of Public Health degree.
- b. To understand scientifically how to conceptualise, undertake and deliver a project report as part of the practical learning in the area of Public Health.

Project Process

All the successful MPH students entering 4th semester shall compulsorily undertake the project as part of the coursework – (January to March).

The following will be the process to be followed for the project work.

- a. Allocation of a project supervisor by the co-ordinator of the MPH course. The main project supervisor will be a member on the faculty of the School of Medical Sciences of the University of Hyderabad. Students are welcome to request anyone who has participated in the teaching or have expertise in the area of their project title within or outside the university to be as co-supervisors. A minimum of 1 and maximum of 2 co- supervisors are allowed.
- b. In consultation with the main project supervisor and co-supervisors, the student should select any topic that falls into the category of the project described above to work on.
- c. The outline proposal consisting of the title, brief background, objectives and proposed methods (data collection tools) and outline analysis plan should be submitted with the required consent and information sheets for participants to the university ethics committee for human research in the prescribed format. This is currently being looked after by the School of Medical Sciences.
- d. On approval of the ethics committee, necessary permissions are to be secured from the authorities where the data collection is planned.
- e. Data collection can be undertaken anywhere across India in the time period allocated for the same. The school or the university does not provide any financial or in kind support for this activity.
- f. A project report described as under has to be presented to the school and defended in a presentation as part of the assessment and examination for the project work in the time period specified.

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Project Report

The project report for this 4 credit exercise shall follow the guidelines as specified as under.

1. 1 hard and 1 soft copy of the project report has to be submitted to the MPH course co-ordinator within the time specified.
2. The report shall not exceed 40 pages using 1.5 lines spacing with 12 point Times New Roman font.
3. The report should include title page, certificate of fulfilment (duly signed by supervisor, co-supervisors, MPH course Coordinator and Dean of the School), content page, introduction and background, brief review of literature, relevance to public health, objectives, methods, results, discussions, recommendations, conclusions, any limitations, references and annexures/appendices.
4. The hard copy of the report should preferably be spiral bound.

Project Assessment

- The 4 credit project work shall have both formative and summative assessment for 100 marks.
- The formative assessment will be for 40 marks including 3 assessments from the public health practice visits undertaken in 3rd semester, conceptualization to the completion of the same within the project specified time period. This will be marked by the project supervisor using any objective means devised by the supervisor
- The summative assessment will be a project report presentation using PowerPoint to a committee constituted for the same which will include faculty of the university and marked independently for 60 marks and averaged to arrive at a total out of 60 marks.
- The University of Hyderabad guidelines shall be followed while evaluating the project work and also for collation of marks and declaration of results.
- Failure in a project would require that the project be undertaken again as per university guidelines.