



Two-Year Postgraduate Programme

Master of Public Health (MPH)

**Faculty of Medicine
Parul Institute of Public Health**

Parul University

Vadodara, Gujarat,

India

Faculty of Medicine
Parul Institute of Public Health
Master of Public Health (MPH)

1. Vision of the Institute:

To empower students and develop well educated Public Health professionals, who have ability to address Public Health needs with application of Public Health principles, values, evidence-based medicine and practice.

2. Mission of the Institute:

Provide an excellent, competency –based, interdisciplinary education, incorporating our core values of scholarship and leadership, scientific rigor and policy analysis, and training to foster the next generation of thought leaders, practitioners and scientists to preserve and promote health for all

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1. Program Educational Objectives

The Master of Public Health (MPH) programme aims to prepare the Students with the following objectives:

Program Educational Objective (PEO)	Description
PEO1	Students will proficiently address public health challenges by integrating knowledge from various disciplines, offering solutions at local, national, and global levels.
PEO2	Students will critically assess the broader implications of public health interventions within diverse contexts, considering ethical and cultural dimensions.
PEO3	Students will exhibit a strong commitment to professional and ethical responsibilities, actively contributing to the advancement of public health knowledge and practice

2. Program Learning Outcomes

Upon completion of the programme, the hospital administration Students will able to:

Program Outcome	Skill	Program Outcome
PLO1	Proficiency in Public Health Practice	Students will be proficient in applying evidence-based practices and methodologies in the planning, implementation, and evaluation of public health programs.
PLO2	Analytical and Critical Thinking	Students will possess strong analytical and critical thinking skills, allowing them to assess and address complex public health challenges effectively.
PLO3	Multidisciplinary Collaboration	Students will demonstrate the ability to work collaboratively in multidisciplinary teams, integrating perspectives from various fields to address public health issues comprehensively.
PLO4	Global and Cultural	Students will exhibit global and cultural competence,

	Competence	understanding the impact of diverse cultural, social, and economic factors on public health and healthcare delivery.
PLO5	Effective Communication and Advocacy	Students will have excellent communication skills and the ability to advocate for public health policies, disseminate health information, and engage with diverse stakeholders.
PLO6	Ethical Leadership	Students will exhibit ethical leadership qualities, upholding the highest standards of professional and ethical conduct in public health practice.
PLO7	Research and Data Analysis	Students will be proficient in conducting research, utilizing data analysis techniques, and contributing to the advancement of knowledge in the field of public health.
PLO8	Health Systems Management	Students will be equipped with skills in health systems management, enabling them to contribute to the effective and efficient delivery of healthcare services.
PLO9	Public Health Advocacy and Policy Development	Students will demonstrate the ability to engage in public health advocacy and contribute to the development, implementation, and evaluation of public health policies.
PLO10	Lifelong Learning and Professional Development	Students will embrace a commitment to lifelong learning, continuously updating their knowledge and skills to adapt to evolving public health challenges and advancements.

3. Program Specific Learning Outcomes

In addition to the specified POs, the public health masters will also be able to:

PSO1	Students will be able to apply epidemiological methods to investigate and analyze patterns of health and disease in populations, demonstrating a comprehensive understanding of study design, data collection, and statistical analysis in public health research.
PSO2	Students will develop the ability to critically assess and formulate public health policies, demonstrating proficiency in health systems management, policy analysis, and strategic planning to address contemporary global health challenges.
PSO3	Students will possess the skills to engage effectively with diverse communities, demonstrating cultural competence and understanding of the social determinants of health. They will be able to develop, implement, and evaluate community-based health interventions to address health disparities
PSO4	Students will be proficient in designing, conducting, and evaluating public health research, using both quantitative and qualitative methods. They will demonstrate the ability to critically appraise existing literature, contribute to evidence-based practice, and communicate research findings effectively.
PSO5	Students will be equipped with the knowledge and skills to plan, implement, and evaluate health promotion and education programs. They will demonstrate the ability to communicate health information effectively to diverse audiences, fostering behavior change and promoting public health awareness.

4. Credit Framework

Semester	Total Credit
Semester -1	22
Semester -2	30
Semester -3	25
Semester -4	19
Grand Total	96

5. Program Curriculum

NAME OF THE PROGRAMME: MASTER OF PUBLIC HEALTH (MPH)				
Sr. NO.	YEAR	SEMESTER	CODE	COURSES
1	YEAR I	1	19202110	Introduction to Public Health
2		1	19202111	Health Management: Principles and Practices
3		1	19202112	Health Systems, Policies and Laws
4		1	19202113	Epidemiology
5		1	19202114	Biostatistics
6		1	19202115	Demography & Population Sciences
7		1	19202116	Programme Management
8		2	19202158	Internship
9		2	19202159	Research Methodology & Research Ethics
10		2	19202160	Global Health
11		2	19202161	Environmental & Occupational Health
12		2	19202162	Public Health Nutrition
13		2	19202163	Social and Behavioural Sciences in Health
14		2	19202164	Soft Skills for Public Health
15	YEAR II	3	19202214	Gender, Health & Rights
16		3	19202215	National Health Programmes
17		3	19202216	Communicable & Non-Communicable Diseases
18		3	19202217	Ethics in Public Health
19		3	19202218	Health Promotion and Communication
20		3	19202219	Public Health Emergency Preparedness
21		3	19202220	Health Economics and Health Financing
22		3		Elective Course (anyone)
Elective courses				
22	YEAR II	3	19202233	Advanced Epidemiology
22		3	19202234	Advanced Health System Management
22		3	19202235	Advanced Public Health Nutrition
22		3	19202236	Health Technology Assessment
23		4	19202254	Scientific Writing
24		4	19202255	Dissertation

Teaching and Examination Scheme:**Lect**-Lecture,**Tut**-Tutorial,**Lab**-Lab,**T**-Theory,**P**-Practical,**CE**-CE,**T**-Theory,**P**-Practical**Semester - 1**

							External Marks		Internal Marks		Total Marks	
Sr	Code	Subject	Credit		Lecture	Lab	Max.	Pass	Max.	Pass	Max	Pass
1	19202110	Introduction to Public Health	2.00	Th	32	-	60	0	40	0	100	50
2	19202111	Health Management: Principles and Practices	3.00	Th	48	-	60	0	40	0	100	50
3	19202112	Health Systems, Policies and Laws	5.00	Th	32	-	60	0	40	0	100	50
4	19202113	Epidemiology	3.00	Th	48	-	60	0	40	0	100	50
5	19202114	Biostatistics	3.00	Th	48	-	60	0	40	0	100	50
6	19202115	Demography & Population Sciences	3.00	Th	48	-	60	0	40	0	100	50
7	19202116	Programme Management	3.00	Th	48	-	60	0	40	0	100	50
Grand Total			22.00		304		420	0	280	0	700	350

Semester - 2

							External Marks		Internal Marks		Total Marks	
Sr	Code	Subject	Credit		Lecture	Lab	Max.	Pass	Max.	Pass	Max	Pass
1	19202158	Internship	13.00	Pr	-	416	60	0	40	0	100	50
2	19202159	Research Methodology & Research Ethics	4.00	Th	48	-	60	0	20	0	80	40
				Pr	-	32	-	-	20	0	20	10
3	19202160	Global Health	2.00	Th	32	-	60	0	40	0	100	50
4	19202161	Environmental & Occupational Health	3.00	Th	48	-	60	0	40	0	100	50
5	19202162	Public Health Nutrition	3.00	Th	48	-	60	0	40	0	100	50
6	19202163	Social and Behavioural Science in Health	3.00	Th	48	-	60	0	40	0	100	50
7	19202164	Soft Skills for Public Health	2.00	Th	16	-	60	0	20	0	80	40
				Pr	-	32	-	-	20	0	20	10

Grand Total		30.00		240	480	420	0	280	0	700	350
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Semester - 3

							External Marks		Internal Marks		Total Marks	
Sr	Code	Subject	Credit		Lecture		Max.	Pass	Max.	Pass	Max	Pass
1		Advanced courses in public health (Complsoy Subjects :1)	3.00	Th	48	-	60	-	40	-	100	-
2	19202214	Gender, Health & Rights	3.00	Th	48	-	60	0	40	0	100	50
3	19202215	National Health Programmes	5.00	Th	80	-	60	0	40	0	100	50
4	19202216	Communicable & Non- Communicable Disease	4.00	Th	64	-	60	0	40	0	100	50
5	19202217	Ethics in Public Health	1.00	Th	16	-	60	0	40	0	100	50
6	19202218	Health Promotion and Communication	4.00	Th	48	-	60	0	20	0	80	40
				Pr	-	32	-	-	20	0	20	10
7	19202219	Public Health Emergency Preparedness	2.00	Th	32	-	60	0	40	0	100	50
8	19202220	Health Economics and Health Financing	3.00	Th	48	-	60	0	40	0	100	50
Grand Total			25.00		384	32	480	0	320	0	800	350

Semester - 3 Elective courses

							External Marks		Internal Marks		Total Marks	
Sr	Code	Subject	Credit		Lecture	Lab	Max	Pass	Max	Pass	Max	Pass
1	19202233	Advanced Epidemiology	3.00	Th	48	-	60	0	40	0	100	50
2	19202234	Advanced Health System Management	3.00	Th	48	-	60	0	40	0	100	50
3	19202235	Advanced Public Health Nutrition	3.00	Th	48	-	60	0	40	0	100	50
4	19202236	Health Technology Assessment	3.00	Th	48	-	60	0	40	0	100	50

Semester - 4

							External Marks		Internal Marks		Total Marks	
Sr	Code	Subject	Credit		Lecture	Lab	Max.	Passing	Max.	Passing	Max.	Passing
1	19202254	Scientific Writing	2.00	Th	16	-	60	0	-	0	60	30
				Pr	-	32	-	-	40	0	40	20
2	19202255	Dissertation	17.00	Pr	-	544	150	0	150	0	300	150
Grand Total			19.00		16	576	210	0	190	0	400	200

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** – Practical **Theory Passing % : 50 Practical Passing % : 50**

- **Internal marks includes**
 - **Internal theory marks: 50% of internal marks**
 - **Continue Education Program (CEP): 50% of internal marks**
 - **CEP includes attendance (25%), class discussion (25%) and assignments or quiz (50%)**

6. Semester wise Syllabus

Semester 1

Course: Introduction to Public Health

Rationale: Public health is concerned with promoting health, preventing disease, promoting good health, and prolonging life through the organized efforts of society. The mission of the public health field is to ensure conditions in which people can be healthy. This course aims to orient students with meaning of health and role of public health in prevention of disease outbreaks, minimize the spread of disease and create conducive environment to protect people against environmental hazards and threats.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Demonstrate understanding of key public health concepts, processes, methods, and data that are essential in understanding a public health problem and the approaches essential to public health practice.
2. Understand how historical events and threats to public health have informed the evolution of public health.
3. Utilize public health concepts and data to prevent and address population-based health outcomes.
4. Demonstrate and value the contributions of the multiple disciplines and stakeholders in working collaboratively with diverse communities, actors (e.g. researchers, practitioners, agencies and organizations) to advance public health goals.

COURSE CONTENTS

Unit No	Topics	Weightage	Hours
1	Introduction to Public Health 1.1. Definition of public health 1.2. History of public health 1.3. Core functions and essential services 1.4 Stakeholders role in public health - Role of government, agencies, health rights activists, and community in health	20	5
2	Determinant of Health 2.1. Determinants of health, Disease 2.2. Concept of health and ill-health 2.3. Dimensions of health 2.4. Theories of diseases 2.5. Levels of Preventions 2.6. Ecological Basis and Evidence Based Public Health	20	5
3	Public Health Actions 3.1. Public health actions across the world – public health surveys, Committees, Alma Ata Deceleration) 3.2. Health equity 3.3. Public health movements – people’s health movement 3.4. Principles of public health practice	25	8
4	Health infrastructure and guidelines 4.1. Overview of Public health infrastructure 4.2. National guidelines in public health	20	8

	4.3.12th Five years plan		
5	Contemporary issues 5.1. Climate 5.2. Violence 5.3. Migration 5.4. Other emerging issues	15	6
	Total	100	32

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

References for books:

1. IAPSM Textbook of Community Medicine: Preventive and Social Medicine Second Edition. AM Kadri 2021. Jaypee Brothers Medical.
2. Park's Textbook of Preventive and Social Medicine. K Park. 2021. Banarsidas Bhanot
3. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.

eResources:

1. Introduction to Public Health, CDC, USA: <https://www.cdc.gov/training/publichealth101/public-health.html>
2. Public Health key words: <https://www.cdc.gov/training/publichealth101/documents/public-health-key-terms.pdf>
3. People's Health Movement: <https://phmovement.org/>
4. People's movement, WHO: <https://www.who.int/europe/publications/m/item/fostering-a-public-health-movement-to-accelerate-action-on-noncommunicable-diseases>
5. Video: Green, "Why Are Health Care Costs So High?" video available at: <https://www.youtube.com/watch?v=qSjGouBmo0M>

Articles:

1. Gostin. (2000). Public Health Law in a New Century. Part III: Public Health Regulation: A Systematic Evaluation. JAMA. 283,3118-3122
2. National Research Council and Institute of Medicine, Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities. Committee on Prevention of Mental Disorders and Substance Abuse Among Children, Youth and Young Adults: Research Advances and Promising Interventions. Mary Ellen O'Connell, Thomas Boat, and Kenneth E. Warner, Editors. Washington, DC: National Academies Press, 2009
3. Kapilashrami, A., Smith, K. E., Fustukian, S., Eltanani, M. K., Laughlin, S., Robertson, T., ... & Scandrett, E. (2016). Social movements and public health advocacy in action: the UK people's health movement. Journal of Public Health, 38(3), 413-416.
4. Brown, T. M., & Fee, E. (2014). Social movements in health. Annual review of public health, 35, 385-398.
5. Shukla, A., & Phadke, A. (1999). Health movement in India. Health action, 12(12), 6-9.
6. Narayan, R. (2011). Universal health care in India: missing core determinants. The Lancet, 377(9769), 883-885.

Course: Health Management: Principles & Practice

Rationale: The course is intended for the postgraduate students in public health who are the future programme managers may be in government sector, development sectors, having own startups or consultancy firm etc. As Public health Professionals require managerial skills and competencies, this course promises to help candidates acquiring knowledge and understanding of various principles of health management and relevant implementation scenarios.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Thoroughly know about Indian public health system and its functioning
2. Explain various principles and functions of management
3. Explain and apply concepts of leadership, motivation, Human Resource Management in organization set up
4. Know the concepts of monitoring, supervision etc.
5. Demonstrate skills of performing Community need assessment, Root cause analysis, SWOT Analysis, interpret and analyze HMIS etc.

COURSE CONTENTS

Unit No	Topics	Weightage	Teaching Hrs.
1	Introduction to Advance Health Management 1. Overview of Indian Public health system 2. Determinants of health 3. Major health problems & Disease Burden 4. Health Indicators 5. National Health Policy 6. Reforms in Health Sectors	20	10
2	Health Management Science 2.1. Management Science for Public Health 2.2. Approaches to management 2.3. Health Management Functions 2.4. Case Study for each function 2.5. Principles of Management 2.6. Case Study 2.7 Supervision of Health Team	20	10
3	Community Engagement for Effective Implementation of Health Programmes 3.1. Community Organization 3.2. Community Diagnosis 3.3 Community Health Need Assessment(CHNA) 3.4. Community Participation 3.5 Panchayati Raj Institutions	15	7
4	Organization Management 4.1. Individual Behaviour 4.2. Public Health Team 4.3. Communication Strategies 4.4 Leadership: Concept and styles	45	21

	4.5 Motivation: Concept and Theories 4.6 SWOT Analysis 4.7 Root cause Analysis & Objective Analysis 4.8 Human Resource Management System 4.9 HR reforms: Case Study 4.10 Health Management Information System 4.11 Research in Health Management		
	Total	100	48

Continuous Evaluation: It consists of Assignments/ Seminars/ Presentations/ Quizzes/ Surprise Tests (MCQ/Summative), Open Book Exam etc.

Reference Books:

1. PUBLIC HEALTH MANAGEMENT PRINCIPLES AND PRACTICE (PB 2016) Paperback – 1 January 2016 by [LAL S.](#)
2. Organizational Behavior By Stephen P Robbins Timothy A Judge 5th Ed
3. Human Resource Management |Third Edition | By Pearson Paperback – 1 January 2020

eResources:

1. <https://www.publichealth.columbia.edu/public-health-now/news/study-identifies-need-greater-investments-public-health-workforce>
2. <https://journals.lww.com/jphmp/pages/default.aspx>
3. <https://gbr.pepperdine.edu/2019/12/creating-a-mentoring-program-that-works/>
4. <https://gbr.pepperdine.edu/2019/12/the-timing-of-work/>
5. <https://in.video.search.yahoo.com/search/video?fr=mcafee&ei=UTF-8&p=health+management+video&type=E211IN714G0#id=0&vid=cf6059fc3e1dbdf167e32f3dc07a7a8a&action=click>
6. <https://in.video.search.yahoo.com/search/video?fr=mcafee&ei=UTF-8&p=health+management+video&type=E211IN714G0#action=view&id=15&vid=87a0a506caef6665c7d0db1015d12ae8>
7. <https://www.youtube.com/watch?v=V9yYvVto8Cs>

Articles:

1. <https://www.emerald.com/insight/content/doi/10.1108/EMJB-10-2013-0050/full/html>
2. <https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-8-27>
3. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0148449>
4. <https://www.emerald.com/insight/content/doi/10.1108/09526860710819413/full/html>
5. <https://link.springer.com/article/10.1186/1478-4491-8-8>

Course: Health System, Policies and Public Health Laws

Rationale: Enable students to demonstrate skills of application of health system, policy and public health law

Course Outcomes:

After completion of this course, students will be able to achieve the following based on the highest level of available evidence.

1. To understand the meaning of health systems both in scope and typology appreciate the multi-faceted nature of the policy response in public health.
2. To identify different components of health system and appreciate their role in healthcare delivery
3. Conceptualize the structure of public health and health delivery system, and enlist major institutions
4. Describe key types of distributive and regulatory approaches in public health policy
5. Be familiar with a simple policy framework which will assist them in critically reviewing health policy issues which they are likely to encounter in their working lives Be familiar with different types of health systems and compare them.
6. To gain the knowledge on public health laws and its application

COURSE CONTENTS

S. No.	Topics	Weightage	Allocated Hrs.
1	Overview and Introduction to Health Policy	6	4
	1.1 Health policy and system strengthening		
	1.2 Health policy: Meaning and concept		
	1.3.Primary components of health policy		
	1.4 Policy Actors		
2	Historical Aspects of National Health Policy	6	4
	2.1. National Health Policy		
	2.2. Process of Policy Formulation & Policy Analysis		
3	Major National & State Laws of Public Health Importance	10	8
	3.1 National Public Health Laws		
	3.2 State Health laws		
4	Health Systems	4	4
	4.1 Health system of India		
	4.2 Private Sector in health system of India		
	4.3 WHO health system six building block framework		
	4.4 Health System of India Field Visits	60	96

5	Health Governance 5.1 Health Governance introduction 5.2 Health Governance of India 5.3 Governance evaluation frameworks	6	6
6	Universal Health coverage 6.1 Elements and importance of UHC 6.2 Country example with UHC 6.3 Efforts for UHC in India 6.4 Role of Private health sector in UHC 6.5 Role of SDG in UHC	4	3
7	Research in Health System and Policy 7.1 Health System research 7.2 Health policy research	4	3
	Total	100	128

CEP (Summative/MCQ), open book exam, etc.

Reference Books:

1. Park K. PARK'S Text Book of Preventive and Social Medicine. Banarsidas Bhanot Publishers
2. Making Health Policy. Kent Buse, Nicolas Mays & Gill Walt. London School of Hygiene & Tropical Medicine 2005
3. An Introduction to Health System. Chapter 1. David McCoy and Pascale Allotey. Cambridge University Press 2021.

E resources:

1. MOOC Course:

- <https://www.coursera.org/learn/healthsystems-policy-research>
- <https://www.coursera.org/learn/introduction-to-health-systems>
- <https://www.coursera.org/learn/health-systems>

2. Health system webinar series by Lancet Commission:

<https://www.citizenshealth.in/>

3. Newsletter and webinar by <https://healthsystemsglobal.org/>

Assignment:

1. Health system presentation
2. National Health Policy review
3. Essay writing on Health system issues of India/Article summary

Course: Epidemiology

Rationale: Enable students to understand and demonstrate the basic skills of application of epidemiology in public health field.

Course Outcome

1. Explain the role of epidemiology in the field of public health.
2. Describe and calculate epidemiological measures used to define and quantify health problems in and across defined populations.
3. Describe the range of epidemiologic study designs used to examine the health status of a population and be able to evaluate the strengths and limitations of each.
4. Identify and describe the impact of bias and confounding in epidemiologic studies
5. Understand the concepts of screening and testing in a range of health and other settings

Course content

Sr.No.	Topic Name	Weightage	Hrs
1.	History and Evolution of Epidemiology 1.1 Transition of Epidemiology 1.2 Contribution of different traditional epidemiologist in modern epidemiology 1.3 Modern Epidemiology by John Snow	5	2
2.	Epidemiology Definition and Usage 2.1 Definition of Epidemiology 2.2 Detail characteristics of epidemiology definitions 2.3 Types of epidemiology 2.4 Use of Epidemiology with examples	12	6
3.	Natural history of disease and epidemiological triad 3.1 Natural History of the Disease 3.2 Levels of interventions and preventions 3.3 Epidemiological triad (Agent, host and environment)	12	6
4.	Measuring tools of epidemiology & Test sensitivity 4.1 Rate, Ratio and Proportion 4.2 Incidence and Prevalence, relationship between incidence and prevalence 4.3 Test validity (sensitivity, specificity, PPV, NPV)	12	6
5.	Epidemiology study design 5.1 Observational Study designs (Descriptive and Analytical) 5.2 Descriptive studies (Case report, case series, Cross Sectional, Ecological) 5.3 Analytical studies (Case-Control and Cohort study)	25	14

6.	Practical Exercise on Epidemiological Calculations and Study applications • Incidence rate • Incidence density • Prevalence • Odds ratio • Relative Risk • Attributable risk • Attack rate • Secondary Attack Rate • Population attributable risk	12	6
7.	Bias, confounders and effect modifier	10	3
8.	Practical Examples discussion on epidemiological study designs • Case report and case series examples • Cross sectional example • Ecological study example • Case control study example • Cohort study example	12	5
	Total	100	48

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

Reference Book

1. Park K. PARK'S Text Book of Preventive and Social Medicine. Banarsidas Bhanot Publishers
2. Bonita, Ruth, Beaglehole, Robert, Kjellström, Tord & World Health Organization. (2006). Basic epidemiology, 2nd ed. World Health Organization.
<https://apps.who.int/iris/handle/10665/43541>
3. Description Leon Gordis Epidemiology 6th Edition, 2019

E-sources:

1. MOOC Course:
 - <https://in.coursera.org/learn/epidemiology>
 - <https://www.udemy.com/share/1071jo/>
2. CDC <https://www.cdc.gov/training/publichealth101/public-health.html>
Assignment
 1. Study design articles reading and summary submission
 2. Practical sums

Course: Biostatistics

Rationale: Enable students to understand and demonstrate the basic skills of application of biostatistics in public health field.

Course Outcome

1. Explain the basic principle and role of biostatistics in the field of public health.
2. Understand the types of data, data presentation and its analysis
3. Enable students to run the basic descriptive analysis includes measure of central tendency and measures of dispersion
4. Understand the basics concepts bayes theorem of probability and its application
5. Explain the types of data distribution, skewness and kurtosis
6. Enable students to test hypothesis by using parametric and non-parametric

Course Content

Sr.No.	Topic Name	Weightage	Hrs
9.	Introduction to biostatistics • Use of biostatics in Public health • Sample, sampling and population	10	4
10.	Data types and presentation 2.1 Basic definition 2.1 Quantitative vs Qualitative 2.3 Survey, Time series data 2.4 Graphical Presentation: table, charts and maps	20	6
11.	Descriptive Analysis: Measures of central tendency and dispersion 3.1 Mean, median, mode, std, IQR, variance, error 3.2 Frequency and percentage 3.3 Grouped mean, median	20	14
12.	Probability and Bayes theorem 4.1 Types of probability and its application 4.2 Bayes theorem: Conditional Probability 4.3 Application of probability	10	6
13.	Types of distribution 5.1 Normal 5.2 Skewness 5.3 Kurtosis	10	03
14.	Hypothesis testing 6.1 Parametric test (T test, Z test, F test 6.2 Non-parametric test 6.3 Chi2 test 6.4 Mann Whitney and Signed ranked test	20	12
15.	Introduction to basics of regression	10	3
	Total	100	48

Continuous Evaluation: It consists of

Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

Reference Book

4. Park K. PARK'S Text Book of Preventive and Social Medicine. Banarsidas Bhanot Publishers
5. Bonita, Ruth, Beaglehole, Robert, Kjellström, Tord & World Health Organization. (2006). Basic epidemiology, 2nd ed. World Health Organization.
<https://apps.who.int/iris/handle/10665/43541>
6. DescriptionLeon Gordis Epidemiology 6th Edition, 2019

E-sources:

2. MOOC Course:

- <https://in.coursera.org/learn/epidemiology>
- <https://www.udemy.com/share/1071jo/>

2. CDC <https://www.cdc.gov/training/publichealth101/public-health.html>

Assignment

1. Study design articles reading and summary submission
2. Practical sums

Course: Demography & Population Studies

Rationale: Enable students understand population studies and the demographic factors that are essential in progressing towards a sustainable population for the country.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence.

1. Explain knowledge of demographic factors that are essential in progressing towards a sustainable population for the country
2. Learn about sources of demographic data and its interpretation
3. Understand and perform demographic calculations
4. Calculate and interpret various demographic rates and link demographic data at the field level with associated public health challenges

Sr.	Topic	Weightage	Teaching Hrs.
1	Meaning and scope of Population Studies 1.1. Definition 1.2. Scope of Population studies 1.3. Application of population studies in public health	10	5
2	Demography: Basic concepts and sources 2.1. Concepts of demography 2.2. Sources of demographic data 2.3. Life Tables 2.4. Use of demographic data	20	8
3	Population 3.1. Composition of population 3.2. Structure and Growth of Population: Sex ratio, age dependency ratio, population pyramid, rate, and growth of population 3.3. Population projection	20	9
4	Demographic transition 4.1. Concept of demographic transition 4.2. Urbanization & Globalization 4.3. Population growth and economic development	25	13
5	Demographic Measures 5.1. Demographic measures related to Fertility 5.2. Demographic measures related to Mortality 5.3. Demographic measures related to Migration	25	13
	Total	100	48

Continuous Evaluation: It consists of assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

Reference Books:

1. Principles of Population Studies. Asha Bhende And Tara Kanitkar. 2011. Himalaya Publications.
2. Textbook of Population Studies. R. K. Jain. Astha Publishers and Distributors.
3. Textbook of Community Medicine: Preventive and Social Medicine Seventh Edition. 2022. Sunder Lal, Adarsh and Pankaj. CBS Publishers and Distributors
4. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.

Course: Programme Management

Rationale: The course is intended for the postgraduate students in public health who are the future programme managers in the field of Public Health. As majority of the job opportunities exist in Projects or Programme implementation areas, this course will help to equip the aspiring managers to prepare themselves with required knowledge and skillset related to Programme planning, Costing & Budgeting, Delivering quality projects and Monitoring & Evaluation of the Public Health.

Course Outcomes:

After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Thoroughly know about basic concepts of Programme Management
2. Explain and Enumerate various components of Programme Management
3. Apply concepts of leadership, Managerial function, skills & Competencies required for an Effective Manager
4. Able to perform costing and budget preparation of a project
5. Able to prepare Monitoring & Evaluation Frameworks for a project

COURSE CONTENTS

Unit No	Topic	Weightage	Teaching Hrs.
1	Introduction to Project Management 1. Need & Importance of Projects 2. Project, Programme & Portfolio 3. Project Life Cycle 4. Root Cause Analysis 5. Determinants of Projects 6. Developing Project Management Maturity 7. Project Elements	15	7
2	Strategy, Structure & Culture in Organization Culture 2.1 Implementing strategy through Projects 2.2 Projects & Organizational Strategy 2.3 Stakeholder Management 2.4. Organization Structure & Culture 2.5 SWOT Analysis 2.6 80:20 Principle	15	8
3	Project Selection & Portfolio Management 3.1. Project Screening & Selection 3.2 Financial Models 3.3 Project Portfolio Management	8	4
4	Leadership & Project Manager 4.1. Why Successful Projects need leaders? 4.2. Leader Vs Manager 4.3. Traits of Effective Project Leaders 4.4 Project Management Professionalism 4.5 Project Management & Ethics 4.6 Time Management	20	9

	4.7 Quality Management Framework 4.8 TQM & Kaizen		
5	Cost Estimation & Budgeting 5.1 Cost Management 5.2 Cost Estimation 5.3 Creating a Project Budget 5.4 Developing Budget Contingencies	12	6
6	Resource Management 6.1 Basics of Resource Constraints 6.2 Time & Resource Scarcity 6.3 Resource Leveling 6.4 Managing Resources in Multi project Environments	10	4
7	Project Monitoring & Evaluation 7.1 Introduction to M&E 7.2 M&E Framework 7.3 Use of Information for Action 7.4 Control Cycles 7.5 Monitoring Project Performance 7.6 Community based Monitoring 7.7 Health Management Information System 7.8 Human Factor in Project Evaluation and Control 7.9 Brief of Project Management Research	20	10
	Total	100	48

Continuous Evaluation: It consists of Assignments/ Seminars/ Presentations/ Quizzes/ Surprise Tests (MCQ/Summative), Open Book Exam etc.

Reference Books:

1. <https://amzn.eu/d/j5SvD2V> (Fifth Edition of Project Management by Jeffrey Pinto)
2. https://www.nesacenter.org/uploaded/conferences/SEC/2014/handouts/Rick_Detwiler/15_Detwiler_Resources.pdf
3. <http://www.freebookcentre.net/business-books-download/Introduction-to-Project-Management.html>
4. Organizational Behavior By Stephen P Robbins Timothy A Judge 5th Ed

E- Resources:

1. <http://www.free-management-ebooks.com/news/project-management-skills-pdf-free-download/>
2. <https://youtu.be/uWPIsaYpY7U>
3. https://www.youtube.com/live/PqQqTAu_FiM?feature=share
4. <https://www.oxfordhomestudy.com/courses/project-management-courses-online/free-online-courses-with-certificates-in-project-management> (Free online certificate courses)

Articles:

1. Atkinson, R. (1999). Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International journal of project management*, 17(6), 337-342.

2. Troutman, D. I. (2019). *Managing Projects for More Efficiency in the Healthcare and Payment Industry: Determination of Key Characteristics and Skills of Successful Project Managers*. Liberty University.
3. Lingard, H., Oswald, D., & Le, T. (2019). Embedding occupational health and safety in the procurement and management of infrastructure projects: institutional logics at play in the context of new public management. *Construction management and economics*, 37(10), 567-583.
4. Aranda-Jan, C. B., Mohutsiwa-Dibe, N., & Loukanova, S. (2014). Systematic review on what works, what does not work and why of implementation of mobile health (mHealth) projects in Africa. *BMC public health*, 14(1), 1-15.
5. Källander, K., Tibenderana, J. K., Akpogheneta, O. J., Strachan, D. L., Hill, Z., ten Asbroek, A. H., ... & Meek, S. R. (2013). Mobile health (mHealth) approaches and lessons for increased performance and retention of community health workers in low-and middle-income countries: a review. *Journal of medical Internet research*, 15(1), e17.
6. Van Herck, P., De Smedt, D., Annemans, L., Remmen, R., Rosenthal, M. B., & Sermeus, W. (2010). Systematic review: effects, design choices, and context of pay-for-performance in health care. *BMC health services research*, 10(1), 1-13.
7. Chaudhry, B., Wang, J., Wu, S., Maglione, M., Mojica, W., Roth, E., ... & Shekelle, P. G. (2006). Systematic review: impact of health information technology on quality, efficiency, and costs of medical care. *Annals of internal medicine*, 144(10), 742-752.
8. Lemieux-Charles, L., & McGuire, W. L. (2006). What do we know about health care team effectiveness? A review of the literature. *Medical care research and review*, 63(3), 263-300.

Semester 2

Course: Internship

Rational: The purpose of Internship for the student is to gain a sense of health administration and management practices in real world scenarios, enable analytic and problem-solving skills. Students are placed at Government or non-governmental organizations where s/he can use their theoretical knowledge gained in one semester to critically evaluate the existing activities within a program/project they are associated with.

Description of internship: Internship of 2 month in 2nd semester in any related organization requires for completion of the course.

Course Outcome: After completion of this course, students will be able to:

1. Get exposure to real-world context of healthcare functioning and public health implementation.
2. Develop technical skills relevant to public health programme development, implementation and management.
3. Understand functioning and management health insurance and medical tourism.
4. Develop critical thinking about healthcare management, administration and sustaining quality in healthcare service delivery.

Course Contents

Sr. No.	Description	Weightage (%)	Practice Hrs.
1	Internship Orientation: Students are oriented on internship process by Internship Coordinator. Internship coordinator shares internship schedule and monitor internship activities.	10	2
2	• Develop individual student's profile and CV • Issue internship letter	10	8
3	• Internship at host institute • Meeting with mentor	65	250
4	• Internship report preparation, submission and viva	15	100

Continuous Evaluation:

- Internship activities are monitored by assigned mentor and internship coordinator from the institute.
- Internal assessment is based on students' performance during internship, feedback received from supervisor at the host institution and report submitted to Internship coordinator duly signed and approved by Mentor and Internship Coordinator from the Institute.
- External assessment will be based on viva-voce during semester end exam.

Reference Materials:

- 1 Format of Internship Report
- 2 Format for Internship letter

Course: Research Methodology & Research Ethics

Rationale: Enable students learn carrying our research in public health domain.

Course Outcomes:

After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Gain knowledge in basic principles, theories, concepts, techniques, and tools used in health research
2. Understand and describe different types of research and research designs.
3. Gain skills to review and critically appraise published healthcare researches
4. Develop skills to write research proposal or study protocols.
5. Understand and apply research ethics frameworks for research in healthcare and hospital settings

Course Contents

Unit No.	Topics	Weightage	TeachingHrs.
1	Introduction to Scientific Research 1.1 Characteristics of scientific research 1.2 History of research 1.3 Research paradigms and approaches 1.4 Types of research 1.5 Understanding and Formulating the Research Process	10	4
2	Selecting research topics 2.1.Choosing research topic 2.2. Formulating research questions and hypotheses 2.3. Choosing research topic and formulating research questions/hypotheses: Practical	20	9
3	Literature review 3.1. Types of literature review 3.2. Literature search process 3.3. Synthesizing evidence from the literature 3.4. Conducting review of literature: Practical	20	10
4	Study designs 4.1. Research designs 4.2. Sampling and types of sampling 4.3. Universe, population, sample size and method of estimating sample size: Practical 4.4. Tool development and data collection procedure 4.5. Developing tools using digital platforms: Google Survey, Kobo etc.: Hands-on 4.6. Overview of data analysis using Excel and SPSS	25	13

	4.7. Quantitative data analysis: Hands-on 4.8. Qualitative data analysis: Hands-on		
5	Proposal Writing and Ethics in Research and Writing 5.1. Writing research proposal/protocol 5.2. Process of writing Dissertation 5.3. Principles of ethics: Confidentiality, informed consent 5.4. Case studies in research ethics 5.5. Scientific writing and types of scientific writing	25	12
	Total	100	48

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), Open book exam, etc.

Reference Books:

1. Research Methodology: Methods and Techniques. C R Kothari and Gaurav. 2019. New Age International.
2. Research Methodology: A Step By Step Guide For Beginners. Ranjit Kumar. 2014. Sage.
3. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches 5th Edition – John W. Creswell and J. David Creswell (Sage)
4. Qualitative Methods in Health and Educational Research. Amol Dongre, Pradeep Deshmukh. 2021. Notion Press.
5. Ethics in Public Health Practice in India. Arima Mishra, Kalyani Subbiah (Eds.)
6. A Guide to Research and Publication Ethics. Partha Pratim Ray. 2022. New Delhi Publishers.

Course: Global Health

Rationale: This course provides a general introduction of Global Health to the field of public health.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence.

1. To differentiate between public health and global health.
2. To learn the basic concepts of global health functioning, governance and System.
3. To enable students to identify global health issues and offer contextual solutions.
4. To showcase and sensitize the importance of science and technology in global health
5. To enable the students to think from multidisciplinary lens to identify and address the global health issues.

COURSE CONTENTS

Sr.	TOPICS	Weightage	Hrs
1	Introduction to Global Health 1.1 Global Health Evolution and its importance 1.2 Global Health Definition 1.3 Difference between Global Health, Public Health and International Health 1.4 Global Burden of Disease Estimation Methodology	11	4
2	Global Health Governance and System 2.1. Definition of Global Health Governance 2.2 Attributes and Elements of Global Health Governance 2.3 Actors of Global Health Governance 2.4 Challenges for Global Health Governance 2.5. Global Health System and Its functions	16	6
3	Food System and Global Health 3.1. Introduction of food system and food safety 3.2 Challenges for food system 3.3 One Health approach for global food system	6	2
4	Collaboration and coordination 4.1 What is inter-sectoral collaboration 4.2 Implementation of Inter-sectoral collaboration at different levels	6	2
5	Science and Technology in Global Health 5.1 Use of Science and Technology in advancement of Global Health	6	2
6	Global Health Issues 6.1 Global Health issues 6.2 What can be done	11	2
7	SDG and Global Health 7.1 SDG Goals and monitoring 7.2 Importance of SDG in Global Health	11	2
8	Global Health Security and Ethics 8.1 International Health Regulations 8.2 Global Health Security & Index 8.3 Ethical Issues in Global Health Research Practice 8.4 Humanitarian and Health	16	6

9	Cross cutting themes of Global Health Discussion 1. Global Women Health 2. AMR is Global Issue 3. Global Mental Health 4. Neglected Tropical Diseases 5. Climate change 6. Non-Communicable diseases	17	6
	Total	100	32

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

Reference Books:

1. Global Health Governance A CONCEPTUAL REVIEW, by Richard Dodgson, Kelley Lee, and Nick Drage, 2002. <https://apps.who.int/iris/handle/10665/68934>
2. Global Health Watch 2: An Alternative World Health Report was first published in 2008 by Zed Books Ltd, 7 Cynthia Street, London n1 9jf, uk and Room 400, 175 Fifth Avenue, New York, ny 10010, usa
3. Textbook of Global Health (4th edn). Anne-Emanuelle Birn, Yogan Pillay, Timothy H. Holtz. Published: 23 March 2017

E resources:

1. MOOC course:
 - Certificate online courses of global health from USAID
<https://www.globalhealthlearning.org/certificate-programs>
 - Global Health MOOC list
<https://www.mooc-list.com/tags/global-health>
 - Coursera
<https://in.coursera.org/courses?query=global%20health>
2. Global Health Newsletter, CDC available from
<https://www.cdc.gov/globalhealth/newsletter/index.html>

Assignment:

1. Presentation on Cross cutting themes of Global Health
2. Debate
3. 1000 words Opinion piece submission on possible global health solutions

Course : Environmental and Occupational Health

Rationale: Enable students understand environmental and occupational health.

Course Outcome: Students will learn:

- Students will be apprised with principles of environment health and human ecology
- Techniques of waste disposal especially management of biomedical waste management
- knowledge of the current and emerging issues in environment
- Identify the various sources of environmental threats to health and the ways to manage the environmental hazards to prevent related diseases from occurring in the community
- Trained to practice preventive medicine in the various occupational areas to prevent diseases related to occupational exposures and to improve the health status of the working population
- Learn concepts of workplace wellness and laws and legislations that promote occupational health
- Knowledge of fundamentals of disaster management

Course Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	Introduction to Environment Health 1.1 Introduction to Ecosystem and biodiversity 1.2 Introduction to food system 1.3 Definition and Principles of Environment Health 1.4 Application in public health	10	4
2	Environmental Pollution 2.1 Water pollution 2.2 Air pollution 2.3 Noise pollution 2.4 Soil Pollution	20	9
3	WASH and Waste management 3.1 Introduction to basics of Water, Sanitation and Hygiene 3.2 Solid waste and liquid waste management 3.3 Bio-Medical waste management 3.4 Sewage waste management	20	9
4	Climate change and its impact on health 4.1 Introduction to meteorology and climate change 4.2 Impact of climate change on infectious disease 4.3 Impact of climate change on non-infectious disease 4.4 Impact of climate change on maternal, child & mental health 4.5 Impact of climate change on food system	25	13
5	Occupational health 5.1. Principles of occupational health 5.2. Health hazards in organized and unorganized sectors 5.3 Occupational diseases 5.4 Workplace wellness	25	13
	Total	100	48

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ)etc.

Assignments:

- Presentation on Sewage treatment plant visit
- Presentation on Water treatment plant visit
- Presentation on biodiversity visit
- Quiz on Environment health

Reference Books:

- Prevention and Social Medicine by Jaypee
- The Built Environment and Public Health Russell P. Lopez
- Ecosystems and Human Health Richard B. Philp
- Current Occupational and Environmental Medicine Joseph LaDou; Robert Harrison
- Environmental Health Howard Frumkin (Editor)

Course: Public Health Nutrition

Rationale: Public health nutrition is the field of study that is concerned with promotion of good health through prevention of nutrition-related illnesses or deficiencies in the population, and the government policies and programmes that are aimed at solving these problems. This course aims to provide an overview of public health nutrition, nutritional problems of public health significance and programmes to tackle nutritional problems.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Understand the global and national burden of nutritional deficiencies
2. Identify the determinants for dietary habits and relate these to individual, social, cultural and economical factors
3. Describe the most important public health nutrition problems in high-income and low-income countries respectively, and discuss long term and short-term countermeasures
4. Identify and discuss the role and impact of different policy documents, international agreements and regulations of importance for public health nutrition activities on a national and international level
5. Search and compile scientific material in the field of public health nutrition

COURSE CONTENTS

Unit No	Topics	Weightage	Hours
1	Introduction to public health nutrition 1.1. History of the development of nutrition science 1.2. Understanding the role of food and nutrients for health 1.3. Nutrition Transition: Demographic, economic transition, poverty alleviation, food consumption patterns 1.4. Determinants of nutritional status of individual & populations 1.5. The need and adequacy of nutrients including the nutritional adequacy of various physiological groups according to the life cycle (from preconception to the elderly) 1.6. Nutritional status assessment –MUAC, Weight for age, Height for age, Weight for height, BMI 1.7. Definitions of various nutrition and health indicators	25	12
2	Major nutrition deficiencies as public health challenge 2.1. Undernutrition: global and Indian prevalence of undernutrition, risk factors consequences 2.2. Major nutritional Problems – etiology, prevalence, clinical manifestations, preventive and therapeutic measures for: Macro and micro nutrient deficiencies. 2.3. Other nutritional problems- etiology, prevalence, clinical manifestations, preventive and therapeutic measures for: lathyrism, dropsy, aflatoxicosis, alcoholism and fluorosis. 2.4. Nutrition and Non-communicable diseases – Overweight, obesity and chronic degenerative diseases	30	12
3	National nutrition programmes and policies 3.1. Programmes and policies on nutrition and health	10	6

	(National and Global) 3.2. United Nations (UN) Decade of Action on Nutrition (2016 - 2025) 3.3. Overview of Sustainable Development Goals (SDGs) - keeping Nutrition at centre stage		
4	Food and nutrition security 4.1. Factors affecting food security, indicators and systems (Global & national) 4.2. Identification and measurement of food insecurity (FIA, ISMAP) 4.3. Food production, access, distribution, availability, losses and consumption 4.4. Socio-cultural aspects of dietary patterns and their implications for nutrition and health	10	6
5	5.1. Programmatic approaches, their advantages and demerits, feasibility, and available resources 5.2. Health-based interventions, food-based interventions including: Fortification and genetic improvement of foods, supplementary feeding, nutrition education for behavior change 5.3. Case studies: Community-based preventive and management programmes; screening approaches, etc.	25	12
	Total	100	48

Continuous Evaluation: It consists of

Assignments/Seminars/Presentations/Quizzes/Surprise Tests(Summative/MCQ), etc.

References for books:

4. Park's Textbook of Preventive and Social Medicine. K Park. 2021. Banarsidas Bhanot
5. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.
6. Michael J. Gibney, Barrie M. Margetts, John M. Kearney, Lenore Arab, Public Health Nutrition, Wiley India Pvt. Ltd.
7. Sharda Gupta, Santosh Jain Passi, Rama Seth, Ranjana Mahna & Seema Puri Kumud Khanna, Nutrition and Dietetics, 2014.

eResources:

1. WHO, Fifty-seventh world health assembly **Global strategy on diet, physical activity and health : Fifty-seventh world health assembly, WHA57.1** Geneva : 2004 URL: http://apps.who.int/gb/ebwha/pdf_files/WHA57/A57_R17-en.pdf
2. WHO and Chan, M., (2011) 'Haemoglobin concentrations for the diagnosis of anemia and assessment of severity', Geneva, Switzerland: World Health Organization, Geneva pp. 1–6. 3)
3. Food and Agriculture Organization of the United Nations. United Nations Decade of Action on Nutrition 2016 – 2025 <http://www.fao.org/3/a-i6129e.pdf>
4. Mother, Infant and Young Child Nutrition and Malnutrition. <http://motherchildnutrition.org/india/overview-india.html>
5. United Nations Development Programme. Sustainable Development Goals. <http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>
6. National Guidelines on Infant and Young Child Feeding. www.wcd.nic.in

Articles:

7. Vir S.C., (2015), Public health nutrition in developing countries (Part I and II), Woodhead Publishing India Pvt, Ltd.

8. Cashman, K. D., Sheehy, T., & O'Neill, C. M. (2018). Is vitamin D deficiency a public health concern for low middle income countries? A systematic literature review. *European journal of nutrition*, 1-21.
9. Saha, S., Pandya, A., Raval, D., & Patil, M. S. (2022). Nutritional Status of Children Under Two Years of Age in the Devbhumi Dwarka District, Gujarat: A Descriptive Cross-Sectional Study. *Cureus*, 14(7), e27445. <https://doi.org/10.7759/cureus.27445>
10. Saha, S., Pandya, A., Kandre, Y., Raval, D., & Saxena, D. (2021). Cross-Sectional Analysis of Nutritional Status, Knowledge and Uptake of Nutritional Services Among Adolescent Girls in Western India. *Adolescent Health, Medicine and Therapeutics*, 12, 117–125. <https://doi.org/10.2147/AHMT.S336071>

Course: Social and Behavioural Sciences in Health

Rationale: Public health continues to face new threats from chronic and communicable diseases, environmental hazards, and both man-made and natural disasters. In this context of dynamic change, it is crucial that decision-makers gain a deeper understanding of social, behavioral, and commercial determinant of health and how to prevent, delay, or reduce the overall impact of these conditions on public health. This course aims to enable students critically understand an application of social and behavioural sciences in health, with specific emphasis on problem analysis, developing, monitoring and evaluating evidence-based public health interventions to reduce disparity and inequity in healthcare services.

Course Outcomes:

After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Describe social and community factors in onset of and solutions to public health issues
2. Identify structural/system causes of social and behavioral factors affecting health
3. Identify the social, developmental, and behavioral theories of health, health behavior, and illness.
4. Describe the process for identifying critical stakeholders, and advocacy.
5. Apply social and behavioural theories for programme designing, planning, monitoring and evaluation.

COURSE CONTENTS

Unit No	Topics	Weightage	Hours
1	Introduction to Social and Behavioural Sciences to Health 1.1.Evolution of social and behavioural sciences for promoting health, advocacy 1.2.Disciplines within social and behavioural sciences 1.3.Role of social and behavioural sciences in health	5	2
2	Dimensions of health 2.1.Definition of health 2.2. Dimensions of health 2.3.Define illness, sickness, disease and disorders	5	2
3	Determinants of Health 3.1.Social determinants of health 3.2. Behavioural determinants of health 3.3. Commercial determinants of health 3.4. Structural/systemic causes of disease; community factors impacting health status and access to health services 3.5. Social Disparities, Stress, and Health	20	10
4	Role of Social and Behavioural Sciences in Health 4.1.Disciplines within Social and behavioural sciences and its application (psychology, sociology, anthropology, economics, history, geography, cognitive sciences and language) 4.2.Explaining Health Behaviour: Insights from Behavioral Economics	25	12

	4.3. Introduction to social epidemiology 4.4. An Intro to History, Politics, & Public Health: Theories of Disease Distr. & Health Inequities 4.5. Reducing Socioeconomic & social inequalities in Health: Concepts, Models, Effective Strategies (Psychosocial care, social and behavioral research Methods, economic approaches in public health)		
5	Strategic Planning & Management 5.1. Situation assessment 5.2. Steps of situation assessment 5.3. Problem solving tools 5.4. Role of stakeholders and community resources 5.5. Role of social and community factors in solving public health problems 5.6. Designing, implementing and evaluating social and behavioural interventions	25	12
6	Community Approaches & Community Organizing 6.1. Community-based approaches 6.2. Community based health programmes: case studies 6.3. Evidence-based advocacy 6.4. Public health policy	20	10
	Total	100	48

References

1. Park's Textbook of Preventive and Social Medicine. K Park. 2021. Banarsidas Bhanot
2. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.
3. Health behavior and health education: Theory, research, and practice (4th ed). Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.) (2008). New York: John Wiley & Sons, Inc.
4. Behavioural Sciences in Medical Practice. Manju Mehta. 2009. Jaypee Brothers.
5. Social and Behavioral Foundations of Public Health. 2nd Edition. Coreil M. (Marie) Jeannine. SAGE Publications Inc

Articles:

1. Glanz, K & Bishop, DB. (2010). The Role of Behavioral Science Theory in Development and Implementation of Public Health Interventions. Annual Review in Public Health 31:399-418.
2. VanDevanter, N., Shinn, M., Niang, K. T., Bleakley, A., Perl, S., & Cohen, N. (2003). The role of social and behavioral science in public health practice: a study of the New York City Department of Health. Journal of urban health : bulletin of the New York Academy of Medicine, 80(4), 625–634.
<https://doi.org/10.1093/jurban/jtg069>
3. Byrne-Davis, L. M., Turner, R. R., Amatya, S., Ashton, C., Bull, E. R., Chater, A. M., ... & Hart, J. K. (2022). Using behavioural science in public health settings during the COVID-19 pandemic: The experience of public health practitioners and behavioural scientists. Acta Psychologica, 224, 103527. Combining community-based research and local knowledge to confront asthma and subsistence fishing hazards in Greenpoint/Williamsburg, Brooklyn, New York. Environment

Course: Soft Skills for public Health

Rationale: Enable students learn carrying our research in public health and healthcare settings.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Gain knowledge in basic principles, theories, concepts, techniques, and tools used in health research.
2. Understand and describe different types of research and research designs.
3. Gain skills to review and critically appraise published healthcare researches.
4. Develop skills to conceptualize and write research proposal or protocol.
5. Develop skills to implement research, collect, manage, analysedata and write research report.
6. Understand and apply research ethics frameworks for research in healthcare and hospital settings.

COURSE CONTENTS

Sr	Topic	Weightage	Teaching Hrs.
1	Introduction of essential skills for healthcare professionals 1.1 Technical skills 1.2 Conceptual skills 1.3 Human skills 1.4 Workplace etiquettes and Professional conduct	20	6
2	Managerial communication 2.1 Basic concepts & principles of good communication 2.2 Special characteristics of communication in health 2.3 Process of managerial communication 2.4 Barriers of communication & how to overcome 2.5 Communication with the media / press 2.6 Managerial writing (report, press release, email, memo, etc.) 2.7 Interview, Group meeting	20	7
3	Time management 3.1 Benefits of Time management. 3.2 SMART GOAL Settings. 3.3 Parkinson's Law. 3.4 Pareto Principle and ABCDE Method of Prioritizing. 3.5 Time Management tips to increase productivity.	20	6
4	Interpersonal Management 4.1 Team management 4.2 Negotiation 4.3 Conflicts Management	20	6
5	Lay Counselling in healthcare: Protecting and Promoting positive mental health 5.1 Workplace mental health 5.2 Common mental health consequences at workplace 5.3 Wellbeing programmes at workplace 5.4 Concept of Lay counselling or Barefoot Counselling 5.5 Lay Counselling Skills	20	7

	5.6 Applications of lay counselling with employees, patients, and their relatives, and stakeholders		
	Total	100	32

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), Open book exam, etc.

Reference Books:

7. Research Methodology: Methods and Techniques. C R Kothari and Gaurav. 2019. New Age International.
8. Research Methodology: A Step By Step Guide For Beginners. Ranjit Kumar. 2014. Sage.
9. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches 5th Edition – John W. Creswell and J. David Creswell (Sage)
10. Qualitative Methods in Health and Educational Research. Amol Dongre, Pradeep Deshmukh. 2021. Notion Press.
11. Ethics in Public Health Practice in India. Arima Mishra, Kalyani Subbiah (Eds.)
12. A Guide to Research and Publication Ethics. Partha Pratim Ray. 2022. New Delhi Publishers.

Semester 3

Course: Gender, Health & Rights

Rationale: Enable students to learn the gender perspective of health, health programmes and policies.

Course Outcomes

After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Distinguish between sex and gender, define and describe the social construction of gender, and apply gender theories to public health issues.
2. Have enhanced knowledge on how gender effects health of women, men, gender nonconforming or gender queer individuals, transgender individuals, and gender minorities.
3. Apply gender analysis framework for the health programme design and health research.
4. Demonstrate skills to design gender promotive interventions
5. Evaluate the underlining factors in inequities at the intersection of sex, gender, gender identity, sexual orientation, disability, ethnicity, and income status.

COURSE CONTENTS

Unit No	Topics	Weightage	Hours
1	Introduction to Gender and Health 1.1 Introduction to the concepts of sex, sexuality and gender 1.2 Understanding sex and gender and how these variables are affected by social-cultural variables 1.3 Gender and violence 1.4 Association between gender and health 1.5 Contemporary development in gender and health	20	10
2	Gender Determinant of Health Gender as determinant of Health 1.6 2.2. Gender minority and health 1.7 2.3. Intersectionality: Inter-sectionalism between gender and social exclusion 1.8 2.4. Gender experiences in accessing health services, intersectoral 1.9 coordination 1.10 2.5. Factors associated in accessing, on uptake and utilization of 1.11 health services	20	10
3	Gender and Human Rights 3.1. Gender from human rights perspectives 3.2. Fundamental human rights 3.3. Sexual and Reproductive rights 3.4. Reproductive Justice: Birth Control, Pregnancy, and Delivery 3.5. Human rights approach to health programming 3.6. Gender analysis of public health programmes, health policies \ and advocacy	25	12

4	Laws and Health from Gender perspective 3.1. Gender from Human Rights perspectives 3.2. Overview of Laws, Acts, and Policies 3.2. Indian Health Policy, Acts and its implications to gender: National Health Policy, POSCO Act, Indian Penal Code, Medical Termination Procedure Act, Transgender Persons Act 3.3. International Acts: Acts in US, Canada, Nepal, Afghanistan, Bangladesh, etc. 3.4 Policy analysis	20	10
5	Contemporary issues (Seminar) 5.1. Gender, Health & Workplace 5.2. Gender, Health & Climate Change 5.3. Gender, Health & Migration 5.4. Gender & Mental Health	15	6
	Total	100	48

References

8. IAPSM Textbook of Community Medicine: Preventive and Social Medicine Second Edition. AM Kadri 2021. Jaypee Brothers Medical.
9. Park's Textbook of Preventive and Social Medicine. K Park. 2021. Banarsidas Bhanot
10. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.

eResources

- WHO/ Gender and Health: <https://www.who.int/news-room/questions-and-answers/item/gender-and-health>
- Gender and Global Health: <https://globalhealth5050.org/gender-and-global-health/>
- Gender Transforming Programme: <https://www.healthcommcapacity.org/wp-content/uploads/2014/08/Gender-Transformative-Approaches-An-HC3-Research-Primer.pdf>
- UNICEF: Gender Transforming Programme: <https://www.unicef.org/reports/gender-transformative-approaches-and-promising-practices-health-nutrition-and-hiv>
- UNFPA/Gender Transformative Programme: <https://www.unfpa.org/sites/default/files/pub-pdf/tools.pdf>
- Lessons Learned in Gender Transformative Health: https://www.igwg.org/wp-content/uploads/2022/08/IGWG_ResearchBrief_GenderTransformativeHealthProgramming_FNL.pdf
- Gender equality in health and wellbeing: <https://www.vic.gov.au/gender-equality-health-and-wellbeing>
- UN Women / Gender equality for health and well-being: Evaluative evidence of interlinkages with other SDGs: <https://www.unwomen.org/en/digital-library/publications/2022/07/gender-equality-for-health-and-well-being>

Course: National Health Programme

Rationale: The course is intended for the postgraduate students in public health who are the future Public Health Ambassadors to sensitize them about the Indian public health system and government Programmes, schemes and initiatives in different public health areas. As Public health system is the major stake holder in India, it very important for the public health professionals to have knowledge about different government Programmes and its implementation at facility as well as community base. This course intends to serve with all the updated knowledge about it.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Thoroughly know about Indian public health system and its functioning
2. Explain various government Programmes, schemes and initiatives in the field of public health
3. Know the Programme implementation level challenges in the field
4. Enumerate various programmatic components

COURSE CONTENTS

Unit No	Topics	Weightage	TeachingHrs.
1	Introduction to National Health Programmes 1.1 National Rural Health Mission 1.2 National Urban Health Mission 1.3 National Health Mission 1.4 Different Programme Areas 1.5 Introduction to NSHRC 1.6 Introduction to MoHFW	10	3
2	Reproductive, Maternal, New-born, Child and Adolescent Health Programmes 2.1 Adolescent Health Programmes 2.2 Child Health Programmes 2.3 Maternal Health Programmes 2.4 Family Planning Programmes 2.5 Immunization Programmes 2.6 Aspirational District Program	30	15
3	Non Communicable Disease control Programmes 3.1 National Programme for Prevention & Control of Cancer, Diabetes, CVDs, Stroke(NPCDCS) 3.2 National Programme for Control of Blindness & Visual Impairment(NPCBVI) 3.3 National Mental Health Programme(NMHP) 3.4 National Programme for Elderly Care(NPHCE) 3.5 National Programme for Prevention & Control of Deafness(NPPCD) 3.6 National Tobacco Control Programme (NTCP) 3.7 National Oral Health(NOHP) 3.8 National Palliative Care(NPPC) 3.9 National Programme for Prevention & Management of Burn Injuries(NPPMBI) 3.10 Other NCD Programmes	30	15
4	Communicable Disease Control Programme	20	10

	4.1.National Vector borne disease control programme(NVBDCP) 4.2.RNTCP & End TB 4.3.National Leprosy Eradication Programme(NLEP) 4.4.Integrated Disease Surveillance Programme(IDSP)		
5	Health System Strengthening Initiatives 5.1 Free drug and diagnostic services 5.2 Patient transport services 5.3 HR 5.4 Infrastructure 5.5 MMUs 5.6 CPHC 5.7 Tribal Health 5.8 Blood Services 5.9 DH Strengthening 5.10 Other HS strengthening Initiatives(KAYAKALP, LaQshya, NQAS)	10	5
	Total	100	48

Continuous Evaluation: It consists of Assignments/ Seminars/ Presentations/ Quizzes/ Surprise Tests (MCQ/Summative), Open Book Exam etc.

Reference Books:

1. J. Kishore's NHP of India; National Policies and Legislations related to Health
2. <https://main.mohfw.gov.in/sites/default/files/Chapter615.pdf>
3. https://openlibrary.org/account/login?redirect=/books/OL16254320M/National_health_programs_of_India

E-Resources:

1. <https://www.nhp.gov.in/healthprogramme/national-health-programmes>
2. <https://www.nhp.gov.in/healthprogramme/state-health-programmes>
3. <http://www.nihfw.org/NationalHealthProgramme.html>
4. <https://nhm.gov.in/index4.php?lang=1&level=0&linkid=353&lid=444>
5. <https://youtu.be/oDjjLkWzmF0>
6. <https://youtu.be/R7ymmpqvmfA>

Articles:

1. Thakur, J. S., Jaswal, N., & Grover, A. (2017). Is focus on prevention missing in national health programs? A situation analysis of IEC/BCC/health promotion activities in a district setting of Punjab and Haryana. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine*, 42(1), 30.
2. Lenka, S. R., & Kar, S. S. (2012). Effective implementation of national health programs: issues and challenges. *National Journal of Medical Research*, 2(04), 528-529.
3. Frieden, T. R. (2014). Six components necessary for effective public health program implementation. *American journal of public health*, 104(1), 17-22.
4. Banerji, D. (1983). National health policy and its implementation. *Economic and Political Weekly*, 105-108.

Course: Communicable and Non-Communicable Disease

Rationale: Enable students to demonstrate skills of application of CDNCD in public health field.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence.

1. Differentiate between communicable and non-communicable diseases
2. Describe disease transmission theory
3. Define control, eliminate, and eradicate the disease
4. Analyze the burden and impact of CD and NCDs
5. Identify and describe important public health communicable and non-communicable diseases
6. Develop surveillance and health promotion strategies to prevent and control such diseases

COURSE CONTENTS

Sr	TOPICS	WEIGHTAGE	TEACHING HOURS
1	1.1 Introduction to Communicable Diseases & Classification 1.2 Terminologies of Communicable Diseases Epidemiology viz. Eradication, elimination, control strategies, etc. 1.3 Burden of disease and trends 1.4 Agent, Host, & environmental factors in Communicable Disease transmission 1.5 Emerging & Re-emerging Communicable Diseases 1.6 Communicable Diseases of Public Health Importance in India and Global Scenarios 1.7 Introduction to entomology and classification of vector	50	30
2	2.1 Introduction & Concepts in Non-Communicable Disease Epidemiology 2.2 Major Non-Communicable Diseases of Public Health Importance 2.3 Step-Wise Approach to NCD risk factor surveillance 2.4 Challenges in NCD prevention & Control	30	20
3	3.1 Introduction & basic concepts of Disease Surveillance 3.2 Integrated Disease Surveillance Program of India 3.3 Outbreak Investigation and control of common Infectious diseases	20	14
	Total	100	64

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

Reference Books:

4. Park K. PARK'S Text Book of Preventive and Social Medicine. Banarsidas Bhanot Publishers
5. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.
6. Textbook of Community Medicine: Preventive and Social Medicine Seventh Edition. 2022. Sunder Lal, Adarsh and Pankaj. CBS Publishers and Distributors

eResources:

1. MOOC / online courses:
 - <https://in.coursera.org/learn/global-disease-non-communicable>
 - <https://in.coursera.org/learn/global-disease-masterclass-communicable>
 - <https://openwho.org/>
2. CDC disease outbreak game zone
 - <https://www.cdc.gov/digital-social-media-tools/mobile/applications/sto/web-app.html>

Assignments:

1. Field visits report
2. Class Presentation on various topics from the history of communicable diseases
3. Entomology lab assignment

Course: Ethics in Public Health

Rationale: Public health and healthcare services deal with moral dilemmas regarding life and death, it requires a strong ethical code to provide guidance in making decisions. When healthcare providers take ethical concerns into consideration, they are better prepared to make decisions that are respectful, equitable, and effective. This course aims to orient students with ethical principles in public health practice and healthcare service delivery.

Course Outcomes:

After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Distinguish between principles, values and ethics.
2. Have enhanced understanding of principles and values that guide public health actions. Principles and values provide a framework for decision making and a means of justifying decisions.
3. Have knowledge about human rights in public health.
4. Apply ethical principles in designing and implementing public health programmes or healthcare service delivery.

COURSE CONTENTS

Unit No	Topics	Weightage	Hours
1	Introduction to public health ethics 1.1. Overview of social justice and ethics 1.2. Distinguishing public health ethics from medical ethics 1.3. Define ethics, values and principles 1.4. Principles of ethics 1.5. Human rights in public health 1.6. Role of governments and other stakeholders in managing health of people	20	2
2	Public health laws, regulations and ethics 2.1. The relation between laws, regulations and ethics 2.2. Public health hazards and security: Global and National scenario 2.3. Public health regulations in global & Indian context 2.4. Public health information and privacy 2.4. Regulations during emergencies and outbreaks 2.5. Addressing newer challenges: Bioterrorism, conflicts and emerging infectious diseases 2.6. Influence of organizations on public health ethics: Decision-making in public health ethics	30	6
3	Ethics in public health research 3.1. Ethics in research 3.2. Functions of Institutional Ethics Committee/Intuitional Review Board 3.3. Consent from participants	20	2
4	Public Health Code of Ethics 3.1. Twelve principles for the ethical practice of public health	30	6

	3.2. Explanations and a practical application of each principle 3.3. Examples of how to use the public health code of ethics. 3.4. Barriers to the ethical practice of public health		
	Total	100	16

References for books:

11. Park's Textbook of Preventive and Social Medicine. K Park. 2021. Banarsidas Bhanot
12. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.
13. Mishra, A., & Subbiah, K. (Eds.). (2018). Ethics in public health practice in India. Springer.

eResources:

7. Stanford Encyclopedia of Philosophy:
<https://plato.stanford.edu/entries/publichealth-ethics/>
8. Michael Marmot speech: https://www.youtube.com/watch?v=LyV_RSq6UzM
9. Public health ethics, CDC, USA:
<https://www.cdc.gov/os/integrity/phethics/index.htm>
10. Planetree Group: Patient-Centered Care
http://www.innovativecaremodels.com/care_models/4/implementation_replication
11. The Bodies Grace, Matthew Sanford's Story:
<http://www.onbeing.org/program/bodys-grace-matthew-sanfords-story/185>
12. Ethics and Ebola: <https://bioethicsarchive.georgetown.edu/pcsbi/node/5891.html>

Articles:

11. Garg, P., & Nagpal, J. (2014). A review of literature to understand the complexity of equity, ethics and management for achieving public health goals in India. Journal of Clinical and Diagnostic Research: JCDR, 8(2), 1.
12. Kass N. (2001). An Ethics Framework for Public Health. American Journal of Public Health. 91(11), 1776-1781.
13. Kass NE. (2004). Public Health Ethics: From Foundations and Frameworks to Justice and Global Public Health. Journal of Law, Medicine and Ethics. 32: 232-242.
14. Lee.(2012). Public Health Ethics Theory: Review and Path to Convergence. Journal of Law, Medicine, and Ethics. 85-98.
15. Mathur, R. (2020). Ethics preparedness for infectious disease outbreaks research in India: A case for novel coronavirus disease 2019. The Indian journal of medical research, 151(2-3), 124.
16. Ortmann LW, Barrett DH, Saenz C, et al. Public Health Ethics: Global Cases, Practice, and Context. 2016 Apr 13. In: H. Barrett D, W. Ortmann L, Dawson A, et al., editors. Public Health Ethics: Cases Spanning the Globe [Internet]. Cham (CH): Springer; 2016. Chapter 1 Available from:
<https://www.ncbi.nlm.nih.gov/books/NBK435780/> doi: 10.1007/978-3-319-23847-0_1

Course: Public Health Emergency Preparedness

Rationale: This course provides a general introduction of Global Health to the field of public health.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence.

1. Enable to identify the type of disaster
2. Learn the basics of Public Health Emergency Assessment
3. Develop the skill of Public Health Emergency Preparedness plan
4. Understand the intervention require during the public health emergencies
5. Learn the skill to evaluate the intervention and planning of public health emergency preparedness

COURSE CONTENTS

S. No.	TOPICS	Weightage	Allocated Hrs
1.	Natural Disaster 1.1 Types of Disaster 1.2 Health Impact of Disaster	12	4
2.	Introduction to Public Health Emergencies 1.1 What are the public health emergency 1.2 Concept of hazard, risk, vulnerability, resilience 1.3 Different emergencies and their health impacts	20	6
3.	Introduction to Emergency Preparedness 1.1 Importance of emergency preparedness 1.2 WHO emergency management framework 1.3 Principles of Emergency preparedness 1.4 Elements of emergency preparedness	30	8
4.	Epidemics in Emergencies 1.1 Epidemics distribution 1.2 Types of epidemics 1.3 Identification and reduction strategies	8	3
5.	Intervention during Emergencies and Crisis 1.1 Intervention strategy mechanism 1.2 PHEP: Resilience Framework	5	2
6.	Evaluation of Interventions in Emergencies 1.1 Monitoring and Evaluation 1.2 Research in PHEP	5	2
7.	Humanitarian aspect in emergencies 1.1 Emergencies and Vulnerable Population 1.2 Migration and Health 1.3 Conflict and Health	8	3
8.	Technology and Finances in Emergencies 1.1 Innovation in Emergencies 1.2 Finances for Emergencies and Disaster	12	4
	Total	100	32

Continuous Evaluation: It consists of assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

Reference Books:

1. Park K. PARK'S Text Book of Preventive and Social Medicine. Banarsidas Bhanot Publishers
2. WHO Emergency Preparedness Framework
<https://www.who.int/publications/i/item/a-strategic-framework-for-emergency-preparedness>
3. Humanitarian Standard on Quality and Accountability © CHS Alliance, Sphere Association and Groupe URD, 2018 [Sphere Handbook \(spherestandards.org\)](https://www.spherestandards.org/)
4. ICRC Emergency Assessment Guide.
<https://www.icrc.org/en/doc/resources/documents/publication/p118009.htm>

E resources:

1. MOOC course:
 - <https://www.who.int/news/item/13-09-2022-six-emergency-management-courses-recognized-for-high-quality-learning>
 - <https://www.my-mooc.com/en/mooc/disasterpreparedness/>
 - <http://surl.li/fixpd>
2. Follow WHO Center for Public Health Emergency Preparedness Center
3. Natural Disaster Plan India <https://ndma.gov.in/>

Assignment:

1. Identify the possible disaster in your house and prepare the emergency plan
2. Write the health impacts of any latest disaster
3. Prepare and present the health policy for any one disaster

Course: Health Promotion and Communication

Rationale: The course provides an introduction to the theory, design, implementation, and evaluation of health promotion and communication programmes. It allows students to acquire practical knowledge and skills in health behaviour change communication planning and implementation. Resources, tools and examples of different media channels are reviewed and analyzed to explore how to reach different target audiences with the most effective health communication interventions.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Define health promotion, communication and its role in promoting health and improving behaviours.
2. Identify theories and methods for health behaviour change.
3. Analyze strategies used in health promotion programmes for specific intended audiences.
4. Describe the strengths, limitations and criteria for use of a range of communication channels including to face-to-face, radio, print, television, and digital media.
5. Identify, design and evaluate a health promotion programme designed to improve the health of specific intended populations.

COURSE CONTENTS

Unit No.	Topic	Weightage	Teaching Hrs.
1	Health promotion 1.1 Introduction to health promotion, health education and health 1.2 behaviour change communication 1.3 Foundation for health promotion 1.4 Communication strategies for health promotion	5	2
2	Behavior change Communication – Concept 2.1 Define health behaviour and behaviour change and 2.2 Information Education and Communication 2.3 Inter Personal Communication 2.4 Behaviour Change Communication 2.5 Social Behaviour Change Communication and Health Behaviour 2.6 Change Communication 2.7 Digital Health Communication 2.8 Characteristics of effective communication	20	10
3	Behavior Change Communication –Theories 3.1 The Health Belief Model 3.2 Theory of Reasoned Action/Planned Behavior 3.3 Stages of Change Model (Transtheoretical Model) 3.4 Social Cognitive Theory 3.5 Integrated Model of Behavioural Prediction 3.6 Socio-ecological Model 3.7 Social marketing Model 3.8 PRECEDE-PROCEED Model	20	10

4	Fundamentals of Health communication & Promotion 4.1. Human behaviour and communication 4.2. Media (TV, digital, print and others) as influencers of healthy/non healthylifestyle 4.3. Designing communication strategies for health programmes 4.4. Implementing and managing health behaviour change communication in public health 4.5. Situation analysis, locate audience, determine communication objectives, strategic approaches, positioning, implementation plan, monitoring and evaluation. 4.6. Unintended effects of health messages 4.7. Examples of health campaign, BCC programmes 4.8. Health, cause marketing, and corporate social responsibility	25	12
	Health promoting policies and programmes 5.1 Overview of current national health policies, national health programmes their health promotion strategies 5.2 Community need assessment for designing an effective health promotion activity 5.3 Evaluation of health promotion plans 5.4 Develop, implement and evaluate health promotion activity: 5.5 Practical		
Total		100	48

Continuous Evaluation:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), Open book exam, etc.

Reference Books:

7. USAID & Ministry of Health and Family Welfare. Social Behaviour Change Communication. https://pdf.usaid.gov/pdf_docs/PA00K6VP.pdf
8. Essentials of Public Health Communication. Parvanta, C., Nelson, D.E., Parvanta, S.A., & Horner, R.N. Sudbury, MA: Jones & Bartlett. (2011).
9. Introduction to Health Promotion and Behavioural Science in Public Health. Madanat H. 2014. Cengage Learning.
10. Health Behaviour Change: Theories, Methods, and Interventions. Andrew Prestwich, Jared Kenworthy, and Mark Conner. 2017. Routledge.
11. The Oxford Handbook of Health Communication, Behaviour Change, and Treatment Adherence. Leslie R. Martin and M. Robin DiMatteo
12. Health Behavior and Health Education: Theory, Research, and Practice. Karen Glanz, Barbara K. Rimer, and K. Viswanath (Editors)

Articles:

- O'Sullivan, Gael, Joan Yonkler, Win Morgan, and Alice Payne Merritt. 2003. A field guide to designing a health communication strategy. Baltimore: Johns Hopkins Bloomberg School of Public Health/Center for Communications Programs.
- Bleakley, A., Hennessy, M., Fishbein, M & Jordan, A. (2011). Using the Integrative Model to explain how exposure to sexual media content influences adolescent

sexual behavior. *Health Education & Behavior*, 530-540.

- Sutton, J.A. & Walsh-Buhi, E.R. (2017). Factors influencing college women's contraceptive behavior: An application of the integrative model of behavioral prediction. *Journal of American College Health*, 339347.
- Kreps, G.L. & Neuhauser, L. (2010). New directions in eHealth communication: Opportunities & challenges. *Patient Education and Counseling*, 329-336. Hardiker, N.R. &
- Grant, M.J. (2011). Factors that influence public engagement with eHealth: A literature review. *International Journal of Medical Informatics*, 112.
- O'Reilly, G.A. & Spruijt-Metz, D. (2013). Current mHealth technologies for physical activity assessment and promotion. *American Journal of Preventive Medicine*, 501-507.
- Evans, W.D., Abrams, L.C., Poropatich, R. et al. (2012). Mobile health evaluation methods: The Text4baby case study, *Journal of Health Communication*, 22-29.
- Kaasalainen, K.S., Kasila, K., Komulainen, J., Malvela, M., & Poskiparta, M. (2016). Readiness for health behavior changes among low fitness men in a Finnish health promotion campaign. *Health Promotion International*, 827-838.
- James, D.C.S., Pobee, J.W., Oxidine, D., Brown, L. & Joshi, G. (2012). Using the Health Belief Model to develop culturally appropriate weight-management materials for African- American women, *Journal of the Academy of Nutrition and Dietetics*, 664-670.
- Chou, WYS, Hunt, YM, Beckjord, EB, Moser, RP, & Hesse, BW (2009). Social media use in the United States: Implications for health communication. *Journal of Medical Internet Research*.
- Vanhamme, J., Lindgreen, A., Reast, J., van Popering, N. (2012). To do well by doing good: Improving corporate image through cause-related marketing. *Journal of Business Ethics*, 259-274.

eResources:

- SBCC resource: <https://healthcommcapacity.org/health-communication/sbcc-online-courses-2/#toggle-id-3>
- Cause related marketing in India: <https://www.brandloom.com/best-cause-marketing-campaigns-in-india>
- Web series : Main Kuch Bhi Kar Sakti Hu <https://mkbksh.org/swachhta-ringtone/>

Course: Health Economics & Health Financing

Rationale: Enable students understand application of health economics and health financing.

Course Outcome: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Explain application of economic principles in health policy and planning of healthcare programmes
2. Demonstrate skills to apply economic evaluation of healthcare programmes
3. Learn basic concepts and skills of accounting and budgeting
4. Understand health system approach to health financing and different types of health insurances

COURSE CONTENTS

Unit No	Topic	Weightage	Teaching Hrs.
1	Introduction to Health economics 1.1. Economy, Health, and Human Development 1.2. Demand and Supply 1.3 Health and Healthcare Market 1.4 Universal health coverage and role of health economics and healthcare financing 1.5. Key concepts of economics, micro and macro economics 1.6. Concepts of efficiency, effectiveness, equity, elasticity of demand, costing, production, marginal cost analysis, and \ opportunity cost	10	4
2	Basics of Economic Evaluation 2.1. Introduction to Economic Evaluation 2.2. Types of Economic Evaluation Studies 2.3. Overview of decision analytic modelling	20	9
3	Basics of Accounting & Budgeting 3.1. Types of Costs 3.2. Health System Approach to Health Financing • Collection • Pooling • Purchasing 3.3. Introduction to financial management 3.4. Tools of financial analysis and planning in health care	20	12
4	Health Financing 4.1. Health financing 4.2. Health financing models 4.3. Economies of insurance and types of health insurances 4.4. Financial risks associated with illness 4.5. National Health Protection Scheme of India	25	13

	(Ayushman Bharat, or PM-JAY) 4.6. Insurance schemes in other countries		
5	Equity in Health Financing 5.1. Concept of equity 5.2. Insurance system (individual and social) and equity 5.3. Functions of health insurance 5.4. Model for user charges for preventing unnecessary use of health services and raise revenue for providing quality healthcare services. 5.5. National and District Health Accounts 5.6. Allocation of finance to health sector, User fees, Resource pooling, mobilization and utilization, Costing and budgeting, Financial sustainability, Cost and dividends for health outcomes, Market model, market failure	25	12
	Total	100	48

Continuous Evaluation: It consists of Assignments/ Seminars/ Presentations/ Quizzes/ Surprise Tests (MCQ/Summative), Open Book Exam etc.

Reference Books:

1. Health Economics and Financing. Kesavan Sreekantan Nair. New Century Publications.
2. Health Economics for Hospital Management. Shuvendu Bikash Dutta. Jaypee Publications.
3. Health Economics. Jayanta Bhattacharya, Peter Tu, and Timothy Hyde
4. The Economics of Health and Health Care. Sherman Folland, Allen C. Goodman & Miron Stano. 2017. Routledge.
5. Health Economics: An Introduction to Economic Evaluation. Gisel Kobelt. 2013.
6. Health Economics from Theory to Practice. Simon Eckermann. Adis.
7. Drummond M etal. Methods of Economic Evaluation of Health Care Programmes, 3rd edition
8. Handbook on Impact Evaluation. Quantitative methods & Practice, World Bank.

Course: Advanced Epidemiology

Rationale: Enable students to demonstrate skills of application of epidemiology in public health field.

Course Outcomes:

After completion of this course, students will be able to achieve the following based on the highest level of available evidence.

1. Develop the skill on when to apply which kinds of epidemiological study design
2. Learn the basic analysis of epidemiological study data
3. Understand the basics of systematics review and meta-analysis
4. Learn the basic concepts of outbreak investigations and report writing
5. Demonstrate disease surveillance, its monitoring and reporting
6. Critically review published epidemiological studies.

COURSE CONTENTS

Sr.	Topic	Weightage	TeachingHrs.
1	Introduction to Advanced Epidemiology 1.4.Definition 1.5.Scope of Adv. Epi. 1.6.Application of epidemiology in public health	10	5
2	Epidemiological study designs 2.1. Variant of Cohort study • Retrospective cohort • Prognostic cohort 2.2. Hybrid study designs • Nested Case Control • Case cohort 2.3. Experimental study designs • RCTs • NRCTs 2.4. Sample size calculation and sampling for epidemiological studies 2.5. Bias, Confounder and Effect Modifiers 2.6. Analysis of Epidemiological studies	25	13
3	Evidence synthesis 3.4.Introduction to evidence synthesis 3.5.Types of evidence synthesis 3.6.Systematic review and meta-analysis: concept and hands-on 3.7.Reporting guidelines of systematic review and meta-analysis 3.8.Strengths and limitations of systematic review and meta-analysis	20	9
4	Advanced concepts and calculations in epidemiology 4.1. Standardization rate, ROC, epidemic curve, reproduction rate,etc 4.2. Causality: Hills Criteria, Multifactorial theory by Rothman 4.3. Outbreak investigation & Disease Surveillance 4.4. Genetic epidemiology	25	13

	4.5. Spatial epidemiology 4.6. Social epidemiology		
5	Application of softwares 5.1. Sample size calculation 5.2. QGIS soft ware 5.3. Epiinfo and Open Epi – hands-on	20	8
	Total	100	48

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), open book exam, etc.

Reference Books:

1. Park K. PARK'S Text Book of Preventive and Social Medicine. Banarsidas Bhanot Publishers
2. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.
3. Textbook of Community Medicine: Preventive and Social Medicine Seventh Edition. 2022. Sunder Lal, Adarsh and Pankaj. CBS Publishers and Distributors
4. Leon Gordis Epidemiology 6th Edition, 2019

eResources:

1. MOOC / online courses :
 2. <https://in.coursera.org/learn/epidemiology-tools>
 3. <https://in.coursera.org/learn/epidemiology>
 4. <https://phtc-online.org/learning/?courseId=9>
 5. <https://www.teachepi.org/>
 6. Weekly epidemiologic records, WHO:
<https://www.who.int/publications/journals/weekly-epidemiological-record>
- International Epidemiology Association: <http://ieaweb.org/>
Society for Epidemiologic Research: <https://epiresearch.org/>

Assignments:

1. Field visits for data collection
2. Critical Appraisal presentation
3. Outbreak Investigation report
4. Field Survey conduction, analysis and report writing

Course: Advance Health System Management

Rationale: The course is intended for the postgraduate students in public health who are the future programme managers may be in government sector, development sectors, having own startups or consultancy firm etc. As Public health professionals require managerial skills and competencies while occupying different level of managerial positions, this course promises to help candidates acquiring knowledge of principles of health management blending with of practical aspects of it.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Thoroughly know about Indian public health system and its functioning
2. Explain various principles and functions of management
3. Explain and apply concepts of leadership, motivation, group dynamics, Human Resource Management in organization set up
4. Know the concepts of monitoring, supervision, liasoning, etc.
5. Demonstrate skills of performing Community need assessment, Root cause analysis, SWOT Analysis, PERT etc.
6. Skills to analyze and interpret HMIS, manage people, budget and material

COURSE CONTENTS

Unit No	Topics	Weightage	Teaching Hrs.
1	Introduction to Advance Health Management 1.1. Overview of Indian Public health system 1.2. Major health problems & Disease Burden 1.3. Health Indicators 1.4. Reforms in Health Sectors 1.5. Social Marketing Programme in Health & Family Welfare	10	5
2	Health Management Science 2.1. Management Science for Public Health 2.2. Approaches to management 2.3. Health Management Functions 2.4. Case Study for each function 2.5. Principles of Management 2.6. Case Study 2.7. Adapting to the role of Public Health Manager and Administrator	15	7
3	Organization Management 3.1. Individual Behaviour 3.2. Public Health Team 3.3. Group Dynamics 3.4. Communication Strategies 3.5. Leadership: Concept and styles 3.6. Motivation: Concept and Theories 3.7. SWOT Analysis 3.8. Root cause Analysis & Objective Analysis 3.9. Human Resource Management System 4.0. Appraisal System	40	19
4	Community Engagement for Effective Implementation of Health Programmes	15	7

	4.1. Community Organization 4.2. Community Diagnosis 4.3 Community Health Need Assessment(CHNA) 4.4. Community Participation 4.5 Panchayati Raj Institutions		
5	Advance Concepts 5.1. HR reforms: Case Study 5.2. Decentralized Participatory Planning 5.3. Work and Power distribution 5.3. Supervision of Health Team 5.4. Program Evaluation & Review Technique (PERT) 5.5. Health Management Information System 5.6. Public Private Partnership 5.7. Research in Health Management	20	10
	Total	100	48

Continuous Evaluation: It consists of Assignments/ Seminars/ Presentations/ Quizzes/ Surprise Tests (MCQ/Summative), Open Book Exam etc.

Reference Books:

1. Public Health Management Principles and Practice (PB 2016). LAL S.
2. Organizational Behaviour. Stephen P Robbins Timothy A Judge (5th Ed)
3. Human Resource Management. (2020) (Third Edition). Pearson Paperback

eResources:

1. <https://www.publichealth.columbia.edu/public-health-now/news/study-identifies-need-greater-investments-public-health-workforce>
2. <https://journals.lww.com/jphmp/pages/default.aspx>
3. <https://gbr.pepperdine.edu/2019/12/creating-a-mentoring-program-that-works/>
4. <https://gbr.pepperdine.edu/2019/12/the-timing-of-work/>
5. <https://in.video.search.yahoo.com/search/video?fr=mcafee&ei=UTF-8&p=health+management+video&type=E211IN714G0#id=0&vid=cf6059fc3e1dbdf167e32f3dc07a7a8a&action=click>
6. <https://in.video.search.yahoo.com/search/video?fr=mcafee&ei=UTF-8&p=health+management+video&type=E211IN714G0#action=view&id=15&vid=87a0a506caef6665c7d0db1015d12ae8>
7. <https://www.youtube.com/watch?v=V9yYvVto8Cs>

Articles:

1. <https://www.emerald.com/insight/content/doi/10.1108/EMJB-10-2013-0050/full/html>
2. <https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-8-27>
3. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0148449>

Course: Advanced Public Health Nutrition

Rationale: Advanced public health nutrition courses focus on understanding of the theoretical and practical considerations in the conduct of epidemiologic studies related to nutrition, more specifically, studies of diet, nutrition, and chronic disease. This course aims to provide an overview of assessment of nutritional deficiencies, analyze population level data and design, implement and evaluate public health nutrition interventions to achieve global targets.

Course Outcomes: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Understand the need of prioritizing nutrition issues
2. Describe the role of public health nutrition interventions to achieve global targets
3. Learn assessment of different types of nutritional deficiencies
4. Analyze population level data and identify risk factors

COURSE CONTENTS

Unit No	Topics	Weightage	Hours
1	Nutrition epidemiology 1.8. Epidemiological triangle of nutrition 1.9. Epidemiology of nutrition, micro and macro nutrient deficiencies 1.10. Understanding the dual burden of malnutrition (overnutrition and undernutrition) 1.11. Importance of nutrition throughout the life cycle 1.12. Understanding the Global burden of death and disease 1.13. Nutrigenomic and nutrigenetic 1.14. Determinant, distribution and variable of nutritional epidemiology 1.15. Natural history of nutritional illness 1.16. Observational study design of Nutritional Epidemiology 1.17. Experimental study design of Nutritional Epidemiology 1.18. Food consumption: data collection, analysis and interpretation	25	12
2	Nutrition and Productivity 2.1. Nutrition issues in institutions (PEM, obesity) 2.2. Nutrition problems in institutions (Anemia, hypertension, hypercholesterolemia, hyperuricemia) 2.3. Specific problems of female workers nutrients (pregnancy, menstruation, lactation) 2.4. Nutrition needs of workers (macro nutrition, micro nutrition) 2.5. Work environment factors that affect the nutritional state of the workers 2.6. Nutrition requirement of workers in hot place 2.7. Nutrition requirement of workers in the place exposed to radiation 2.8. Organizing meal and nutrition program at work	25	12
3	Role of Nutrition in Achieving Global	10	6

	Targets 3.1. Importance of first 1000 days of life with Optimal Infant and Young Child Feeding practices 3.2. Improving maternal, infant and young child nutrition – WHO Global Targets 2025 3.3. Role of dietary risk factors related to Non-Communicable Diseases (NCDs), maternal and child health to achieve global targets 3.4. Role of Various National and International Organizations Global Alliance for Improved Nutrition (GAIN), World Food Programme (WFP), World Alliance for Breastfeeding Action (WABA), WHO, UNICEF, Save the Children, Nutrition International, Bill and Melinda Gates Foundation 3.5. Nutrition informatics		
4	Designing, implementing and evaluating public health nutrition programmes 4.1. Designing nutrition programmes 4.2. Developing indicators of the programme 4.3. Developing and assessing strategies for implementation 4.4. Management and evaluation of nutrition programmes	10	6
5	Project work 5.1. Conducting field study: Evaluation of integrated child development scheme or review behaviour change communication interventions or as suggested by course teacher 5.2. Seminar – presentation of field work	30	12
	Total	100	48

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), etc.

References for books:

14. Park's Textbook of Preventive and Social Medicine. K Park. 2021. Banarsidas Bhanot
15. Review of Preventive and Social Medicine 14th Edition. 2022. Vivek Jain. Jaypee Brothers.
16. Michael J. Gibney, Barrie M. Margetts, John M. Kearney, Lenore Arab, Public Health Nutrition, Wiley India Pvt. Ltd.
17. Sharda Gupta, Santosh Jain Passi, Rama Seth, Ranjana Mahna & Seema Puri Kumud Khanna, Nutrition and Dietetics, 2014.

eResources:

13. Public health and nutrition resources from CDC, USA:
<https://www.cdc.gov/nutrition/micronutrient-malnutrition/resources/index.html>
14. Nutrition source: <https://www.hsph.harvard.edu/nutritionsource/>
15. Public health nutrition resources:
<https://www.publichealth.org/resources/nutrition/>

16. Food and Agriculture Organization of the United Nations. United Nations Decade of Action on Nutrition 2016 – 2025 <http://www.fao.org/3/a-i6129e.pdf>
17. World Bank: <https://www.worldbank.org/en/topic/nutrition>
18. World Food Programme: <https://www.wfp.org/nutrition>
19. World Health Organization (Nutrition & Food safety): <https://www.who.int/teams/nutrition-and-food-safety>

Articles:

17. Joshi A, Gaba A, Thakur S, Grover A. Need and Importance of Nutrition Informatics in India: A Perspective. *Nutrients*. 2021 May 27;13(6):1836. doi: 10.3390/nu13061836.
18. Mursu J, Robien K, Harnack LJ, Park K, Jacobs DR Jr. Dietary Supplements and Mortality Rate in Older Women: The Iowa Women's Health Study. *Arch Intern Med* 2011;171(18):1625-1633 [example of observational study involving dietary supplements]
19. Odegaard AO, Koh W-P, Butler LM, Duval S, Gross MD, Yu MC, Yuan J-M, Pereira MA. Dietary Patterns and Incident Type 2 Diabetes in Chinese Men and Women. *Diabetes Care* 34:880–885, 2011 [example of observational study involving dietary patterns]
20. Odegaard AO, Pereira MA. Dietary Patterns and Type 2 Diabetes. In: *Nutrition and Type 2 Diabetes: Etiology and Prevention*. Editor: Mark A. Pereira. Publisher: CRC Press. August, 2013. [Book chapter on dietary pattern methodology]
21. Bohan Brown MM, Brown AW, Allison DB. Nutritional epidemiology in practice: learning from data or promulgating beliefs? *American Journal of Clinical Nutrition* 2013;97:5-6.
22. Schoenfeld JD and Ioannidis JP. Is everything we eat association with cancer? A systematic cookbook review. *American Journal of Clinical Nutrition* 2013;97:127-134.
23. Appel LJ, Moore TJ, Obarzanek E, et al. A clinical trial of the effects of dietary patterns on blood pressure. DASH Collaborative Research Group. *NEJM*. 1997; 336(16): 1117-1124. [Example of feeding study]
24. Prentice RL, Caan B, Chlebowski RT, et al. Low-fat dietary pattern and risk of invasive breast cancer: the Women's Health Initiative Randomized Controlled Dietary Modification Trial. *Journal of the American Medical Association*. 2006; 295(6): 629-642. [Example of community based trial]
25. Morris MC, Tangney CC. A potential design flaw of randomized trials of vitamin supplements. *Journal of the American Medical Association*. 2011; 305(13): 1248-1249.
26. Krebs-Smith SM et al. Healthfulness of the U.S. food supply little improvement despite decades of dietary guidance. *Am J Prev Med*. 2010; 38(5): 472-477. [Example of nutrition surveillance and use of food disappearance data]
27. Thompson FE, Subar AF, Loria CM, Reedy JL, Baranowski T. Need for technological innovation in dietary assessment. *Journal of the American Dietetic Association*. 2010; 110 (1): 48-51.
28. Illner, AK, Freisling H, Boeing H, Huybrechts I, Crispim SP, Slimani N. Review and evaluation of innovative technologies for measuring diet in nutritional epidemiology. *International Journal of Epidemiology*. 2012;41:1187-1203

Course: Health Technology Assessment

Rationale: The course is intended to give the basic knowledge on principles health technology assessment, steps of evaluation of health technologies to guide decision-makers about allocation of resources for different activities of health system.

Course Outcome: After completion of this course, students will be able to achieve the following based on the highest level of available evidence:

1. Explain concept of HTA and its role in achieving Universal Health Coverage.
2. Demonstrate skills to develop HTA protocol, and carry evidence synthesis.
3. Demonstrate skills of conducting costing analysis, cost-effective analysis/cost-utility. analysis using appropriate decision-analytic model.
4. Skills to carry out sensitivity analysis, equity analysis, budget impact analysis.
5. Skills to develop policy recommendations and write policy brief.

COURSE CONTENTS

Unit No	Topic	Weightage	TeachingHrs.
1	Introduction to Health Technology Assessment (HTA) 1.3.Overview of HTA 1.4.Scope of HTA 1.5.HTA for Universal Health Coverage 1.6.Outline of key components of HTA 1.7.Identification of appropriate HTA topic 1.8.Selecting right HTA topic - Exercise	10	4
2	Evidence synthesis (ES) 2.1.Introduction to ES 2.2. Types of ES 2.3. Steps to review available evidences 2.4. Systematic review and meta-analysis 2.5. Steps of systematic review and meta-analysis – Hands-on 2.6. Use of digital platforms for systematic review and meta-analysis – Hands-on 2.7. Systematic review protocol development – Exercise	20	7
3	Basics of Costing 3.1. Types of Costs 3.2. Perspectives • Patient • System • Social • Payer 3.3. Concept of discounting, inflation, reference case, etc. 3.4. Calculations for costing analysis - Exercise 3.5. Programmatic Cost Analysis - Exercise	20	10
4	Health outcomes and its assessment	25	12

	4.1. Overview of health outcomes 4.2. Valuing health outcomes 4.3. Calculation of DALY, QALY, LYS - Exercise		
5	Conducting HTA 5.1. Cost-Benefit Analysis (CBA), Cost Effectiveness Analysis (CEA), and Cost Utility Analysis (CUA) 5.2. Decision tree and Markov model 5.3. Incremental Cost-effective Ratio, Incremental Cost-utility Ratio 5.3. Sensitivity analysis - Exercise 5.4. Equity analysis - Exercise 5.5. Budget impact analysis- Exercise 5.6. HTA report writing - Exercise 5.7. Policy brief - Exercise	25	15
	Total	100	48

Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (MCQ/Summative), Open Book Exam etc.

Reference Books:

1. Health Economics and Financing. Kesavan Sreekantan Nair. New Century Publications.
2. Health Economics. Jayanta Bhattacharya, Peter Tu, and Timothy Hyde
3. Health Economics: An Introduction to Economic Evaluation. Gisel Kobelt. 2013.
4. Health Economics from Theory to Practice. Simon Eckermann. Adis.
5. Health Economics and Policy by James W. Henderson 6th edition. Cengage Publication
6. WHO Guide to Cost-effective Analysis. Edejer, World Health Organization

eResources:

HTA in India – A Manual: <https://htain.icmr.org.in/images/pdf/htain%20manual.pdf>

HTA: https://www.nlm.nih.gov/nichsr/hta101/HTA_101_FINAL_7-23-14.pdf

Policy brief: HTA by

WHO: https://www.euro.who.int/__data/assets/pdf_file/0018/90432/E87866.pdf

Course: Scientific Writing

Rationale: Effective writing is considered essential skills. Communicating work and evidence to the management, stakeholders and scientific community is the responsibility of healthcare professionals including hospital managers and administrators. This course will introduce students to the fundamentals of academic and professional writing skills. The course also focuses on the different types of writing with greater emphasis on project report, grant, dissertation and manuscript writing and other scientific writing.

Course Outcomes: After completion of this course, students will be able to:

1. Learn types of academic and professional writings.
2. Apply principles of the scientific narrative and plain language to written professional and scientific documents.
3. Exercise accepted methods for literature discussion, citing and quoting to written scientific documents while avoiding plagiarism.
4. Use electronic resources (Mendely, Grammarly, Quilbot, etc.) for writing.

Course Contents

Unit No.	Topics	Weightage (%)	Teaching Hrs.
1	1. Introduction to Scientific Writing 1.1. Meaning of scientific writing 1.2. Key principles of effective writing 1.3. Types of academic and professional writing 1.3.1. Project report 1.3.2. Study report 1.3.3. Proposal / Protocol Writing 1.3.4. Grant Application 1.3.5. Statement of Purpose/Letter of Recommendations 1.3.6. Dissertation/Thesis 1.3.7. Manuscript 1.3.8. Book/Edited book/Monograph	15	2
2	2. Components of scientific writing 2.1. Initial steps of scientific writing – pre-writing phase 2.2. Structure of writing (general): Introduction, Method, Results Discussion, Conclusion 2.3. Structure of thesis writing 2.4. Structure of policy brief and other documents 2.5. Choosing the right journal for publication 2.6. Submission of manuscript 2.7. Online writing tools	30	5
3	3. Elements of scientific writing 3.1. Length of writing: Brevity is better. 3.2. The Argument matrix: Logical and easy to understand organization contents 3.3. Correct grammar and choice of language: Framing statement, grammar, punctuation, and active voice 3.4. Designing effective tables and graphs	30	5

	3.5. Error free citations and organization of references: Use of reference manager softwares like Mendeley Zotero, EndNote 3.6. Use of photos, images: Giving due credits 3.7. Proof-reading documents before submission 3.8. Online writing tools for scientific writing 3.9. Copy editing process 3.10. Peer review process 3.11. Responding to peer-review		
4	4. Ethical and other issues in scientific writing 4.1. Data sharing policy 4.2. Plagiarism 4.3. Strategies to prevent plagiarism 4.4. Submission of Proposal – Practical 4.5. Submission of report - Practical	25	4
	Total	100	16

Continuous Evaluation: It consists of Assignments/ Seminars/ Presentations/ Quizzes/Surprise Tests/ Tests(Summative/MCQ/Open book exam) etc.

Reference Books:

- 1 Writing and Publishing a Scientific Research Paper 2021. Parija, Subhash Chandra and Vikram Kate. – Springer
- 2 How to Write the Thesis and Thesis Protocol: A Primer for Medical, Dental, and Nursing Courses. Piyush Gupta and Dheeraj Shah. Jaypee Brothers Medical Publishers (P) Ltd.
- 3 Writing That Works, 3rd Edition: How to Communicate Effectively in Business. Kenneth Roman, Joel Raphaelson – Collins Reference
- 4 The art and science of writing a scientific paper. Devendra Mishra and Dheeraj Shah– CBS Publishers.

Course: Dissertation

Rationale: The purpose of Dissertation for the student would be to carry out a research or project activity and to test the skills he/she has gained over the past three semesters. The students may associate themselves with some Government or Non-Government Organization or can also carry out the research/project independently using the theoretical knowledge and skills they have gained.

Description:

The dissertation will be issue-based study carried out in public health in any of the following areas:

- Planning & designing of various public health programmes
- Development and assessment of behaviourchange communication strategy
- Quality of patient services
- Psychological or behavioural issuesof key populations
- Health insurance/PMJAY
- Health Informatics/Health Technology Assessment
- Disaster management & occupational hazard studies
- Public mental health
- One health
- Nutrition
- Programme management
- Gender analysis
- Policy analysis of any public health programme/s
- Epidemiological studies so on & so forth....

Course outcomes: After completion of this course, students will be able to:

1. Develop of a research or project proposal
2. Develop of tools to conduct project work or collect data for research
3. Collect data, manage and analyze data
4. Write a project report or dissertation
5. Conduct project or research independently

Course Contents

Unit No.	Topics	Weightage (%)	Practice Hrs.
1	• Research/Project Proposal submission • Presentation of Research/Project proposal • Approval from dissertation review committee	20	100
2	• Conduction of research/project work • Monthly meeting with their respective guide and supervisor at host institute	30	300
3	• Submission of hard copies of dissertations (Five) • Submission of Manuscript to guide • Proof of submission of manuscript in Journal	50	144
Total		100	544

Continuous Evaluation:It consists of research/project process, interaction with guide/mentor, manuscript writing and submission of dissertation.

References:

- 5 Dissertation guide. PIPH.
- 6 Master's thesis guide: <https://epi.washington.edu/wp-content/uploads/2021/03/Masters-Thesis-Guide.pdf>
- 7 Master of Public Health (MPH) Thesis Guide: https://globalhealth.washington.edu/sites/default/files/Thesis%20Guide_May%202019_0.pdf