Syllabus For

2-Year PG Programme in Healthcare Studies

Master of Public Health [MPH]

as per

NATIONAL EDUCATION POLICY–2020

Aryavart School of Legal Studies

Aryavart International University

Tilthai, Dharmanagar, North Tripura-799260

Introduction

In the 21st century, public health has emerged as a critical field at the intersection of medicine, policy, and social science, central to addressing population-level health challenges, health system strengthening, and health equity in an increasingly interconnected world. The rapid transformation of healthcare through epidemiological surveillance, health economics, and evidence-based policy has made rigorous public health education an indispensable pillar of higher learning. The two-year Master of Public Health (MPH) Programme at Aryavart International University (AIU) is a postgraduate programme designed to develop the epidemiological, biostatistical, managerial, and research capabilities essential for leadership in public health practice, policy, and research.

Aligned with the National Education Policy (NEP) 2020, the MPH Programme at AIU is a two-year (four-semester) postgraduate programme that offers students a rigorous grounding in epidemiology, biostatistics, health systems and policy, health economics, and health promotion, alongside applied research training. The Programme integrates theoretical learning with health management coursework, a Seminar/Conference Presentation component, discipline-specific electives, and a substantial final-semester Internship, preparing students for careers across public health practice, health policy, health programme management, and research.

Programme Objectives

The objectives of the two-year MPH Programme are:

- To provide students with a strong foundation in the principles and practice of public health, epidemiology, and biostatistics.
- To develop analytical and quantitative skills required for the design, monitoring, and evaluation of public health programmes.
- To build understanding of health systems, health policy, and health economics in developing-country contexts.
- To equip students with skills in demography and population sciences, health promotion, and social and behaviour change communication.
- To build competence in reproductive, maternal, child, and adolescent health, and environmental and occupational health.
- To develop research aptitude through training in research methods and a Seminar/Conference Presentation component.
- To inculcate professional ethics and legal awareness essential for responsible public health practice, through dedicated training in law and ethics in public health.
- To expose students to real-world public health practice through a substantial supervised Internship in the final semester.
- To prepare students for careers in public health practice, policy, programme management, and doctoral research.

Programme Learning Outcomes

On the completion of the MPH Programme, students will be able to:

✓ Demonstrate comprehensive understanding of public health principles, epidemiology, and biostatistics.

✓ Apply demographic, epidemiological, and biostatistical methods to analyse population health data.

✓ Design, monitor, and evaluate public health programmes using established frameworks and research methods.

✓ Analyse health systems, health policy, and health financing in developing-country contexts.

✓ Apply health promotion and social and behaviour change communication strategies to public health challenges.

✓ Demonstrate awareness of legal and ethical standards governing public health practice and research.

✓ Exhibit professional communication and research presentation skills through seminar and conference participation.

✓ Apply public health knowledge and skills in a real-world setting through a supervised Internship and applied research/dissertation work.

Need for Curriculum Development

The MPH curriculum at Aryavart International University is framed in alignment with the UGC guidelines and NEP 2020 to produce practice-ready public health professionals and future health system leaders. The following factors necessitate a contemporary and rigorous curriculum:

Dynamic Public Health Landscape

Rapid changes in disease burden, health financing, and global health policy — including emerging infectious diseases, non-communicable disease management, and digital health surveillance — demand that students be trained in both foundational and emerging areas of public health. The curriculum integrates these evolving domains to bridge the gap between academia and public health practice.

Credit Transfer and Academic Mobility

In line with the UGC's credit transfer provisions under NEP 2020, the MPH Programme enables students to transfer credits between programmes and institutions through the Academic Bank of Credits (ABC), pursue interdisciplinary electives, and take vocational/skill enhancement courses.

Discipline-Specific Electives

In Semester IV, students choose a Discipline Specific Elective (DSE) group, allowing specialisation in an area of individual interest within public health, alongside the core curriculum and the final-semester Internship.

Skill Enhancement and Employability

The curriculum places strong emphasis on practice-oriented skill development through health management coursework, a Seminar/Conference Presentation component, and a substantial supervised Internship. Aryavart School of Public Health at AIU maintains active engagement with health systems, government health departments, and public health organisations to ensure students are trained on the competencies demanded by the field.

Career Options

The MPH Programme opens diverse and rewarding career pathways. Graduates of AIU's MPH Programme are equipped to pursue professional careers including:

- Public Health Officer / Programme Manager
- Epidemiologist / Disease Surveillance Officer
- Biostatistician / Health Data Analyst
- Health Policy Analyst / Health Systems Researcher
- Health Economist
- Monitoring & Evaluation (M&E) Specialist
- Health Promotion & Behaviour Change Communication Specialist
- Hospital / Healthcare Administrator
- NGO / Development Sector Public Health Professional
- Researcher / Academician (public health, epidemiology, or allied fields)

Pedagogy

The MPH pedagogy at Aryavart International University is designed to create practice-oriented, research-capable public health professionals and future health system leaders. The curriculum employs a blend of traditional and experiential learning methodologies.

Integration of Theory and Practice

Each course balances conceptual and quantitative foundations with applied practice. Students engage in case study analysis, programme design and evaluation exercises, and a substantial final-semester Internship to translate theoretical knowledge into public health practice competencies.

ICT-Enabled Teaching

Smart classrooms, biostatistical and epidemiological software tools, health information systems, and online research databases are integrated into the instructional design to promote digital fluency and evidence-based public health reasoning.

Research-Based Learning

Students undertake training in the Principles of Research Methods in Semester III, present a Seminar/Conference Presentation in the same semester, and complete a substantial supervised Internship incorporating applied research/dissertation work in Semester IV, fostering analytical rigour and a research temperament consistent with NEP 2020's emphasis on inquiry-based education.

Methods of Instruction

- Lectures by subject experts and public health practitioners
- Case study analysis and programme design/evaluation exercises
- Seminars, workshops, and guest lectures
- Biostatistics and epidemiology software laboratory sessions
- Discipline-specific elective coursework (DSE)
- Supervised fieldwork and Internship mentorship

Methods of Evaluation

- Internal Sessional Examinations (Internal Assessment Exams)
- End Semester Examinations (Theory)
- Assignments, case studies, and programme evaluation reports
- Seminar/Conference Presentation and evaluation
- Internship performance, field supervisor assessment, and viva-voce
- Attendance and class participation

Scheme of Evaluation

A. MPH — Scheme of Evaluation (Theory Courses)

Component	Sub-component	Marks
Internal Assessment (30 Marks)	Continuous Mode	15
	Internal Assessment Examination (2 Hours)	15
End Semester Examination (Theory)	3 Hours Written Examination	70
TOTAL		**100**

B. Seminar/Conference Presentation — Scheme of Evaluation (2 Credits / 50 Marks)

As per the approved Course Structure, the Seminar/Conference Presentation component is offered in Semester III as a 2-credit Ability Enhancement Course, requiring students to present a technical paper or attend and report on a public health conference:

Component	Sub-component	Mode of Evaluation	Marks
Internal Assessment (15 Marks)	Topic Selection / Continuous Mentoring	Continuous Evaluation	15
End-Semester Evaluation (35 Marks)	Seminar Presentation / Conference Paper & Report	Presentation & Viva-Voce	35
TOTAL			**50**

C. Internship — Scheme of Evaluation (Semester IV)

As per the approved Course Structure, Semester IV is devoted almost entirely to a supervised Internship, incorporating applied research/dissertation work, alongside the DSE elective. The source Course Structure marks this component with an asterisk ("Internship*") but the explanatory footnote defining its exact credit

value was not present in the source file; based on the stated Semester IV total (30 credits) less the DSE (4), Extracurricular (2), and VAC (2) components, the Internship carries an implied 22 credits — substantially more than the standard 2-credit Ability Enhancement Course weight shown in the column header. The evaluation break-up below is proposed accordingly and should be confirmed with the Board of Studies:

Component	Basis of Evaluation	Marks
Internship Report / Logbook	Continuous record of fieldwork/placement activities	60
Field Supervisor / Mentor Assessment	Evaluation by the host institution's field supervisor	60
Dissertation / Applied Research Project Report	Written report on applied research undertaken during the Internship	100
Presentation & Viva-Voce	Final presentation and oral examination before a panel	80
TOTAL		**300**

Note: The 300-mark break-up above is a proposed structure pending confirmation, since the source Course Structure's footnote explaining the Internship's credit weighting was missing from the uploaded file. Please verify the intended credit value and marks distribution before adoption.

Exit Options and Credit Requirements

As per NEP 2020 provisions, students may exit the programme at the end of each year and are awarded the corresponding certificate/degree:

Exit Option / Completion	Credits	Certificate / Award
Successful completion of Year I (2 Semesters)	48	Certificate in Public Health
Successful completion of Year II (4 Semesters)	104	**Master of Public Health (MPH)**

Internal Assessment: Continuous Mode

The Internal Assessment for the MPH includes two components: (i) Internal Assessment Examinations and (ii) Continuous Mode Evaluation. The Continuous Mode constitutes 15 marks per theory course and is assessed on an ongoing basis throughout the semester as detailed below.

MPH — Continuous Mode Assessment (15 Marks)

The Continuous Mode Assessment for the MPH is conducted on an ongoing basis throughout the semester and comprises the following components, emphasising broad-based public health knowledge, regular engagement, and all-round participation across core disciplines:

Sl. No.	Component	Criteria / Basis	Marks
1	Attendance	≥95%: 5 | 94-90%: 4 | 85-89%: 3 | 80-84%: 2 | 75-79%: 1 | <75%: 0	5
2	Assignment / Case Study / Quiz	Written assignments, case analysis, or class quiz/test assigned by the course faculty	5
3	Teacher–Student Interaction / Presentation / Viva	Oral interaction, seminar/topic presentation, group discussion, or class participation	5
TOTAL			**15**

Note: Internal Assessment Examinations are conducted twice per semester. The average of the two sessional exams (each of 50 marks, averaged to 15) is taken for the purpose of Internal Assessment. The course faculty shall announce the schedule and modalities of Continuous Mode Assessment at the commencement of each semester.

Course Structure for the Master of Public Health Program as Per NEP 2020								
Semester	**Major Subject (Core Subject) (4 Credits)**	**Additional/ Interdisciplinary subject/ Multidisciplinary (4 Credits)**	**Skill Course/ Vocational Course (2 Credits)**	**Ability Enhancement Courses (2 Credits)**	**Discipline specific/ Open Elective/Project (4 Credits)**	**Extracurricular Courses (2 Credits)**	**Value Added Courses/ VAC (2 Credits)**	**Total Credits**
I	Principles and Practices of Public Health Basic Epidemiology Basic Biostatistics	Health System and Policy in Developing Countries	Not Applicable	Business Communication	Health Management: Management Principles and Practices (Strategic Management)	Life Skills and Personality Development	Not Applicable	24
II	Demography and Population Sciences Introduction to Health Economics Health Promotion Approaches and Methods	Introduction to Financial Management and Budgeting	Not Applicable	Environmental Studies	Social and Behaviour Change, Effective Communication in Health Care	Not Applicable	Health & Wellness	24
Exit option with Certificate in Public Health (48 Credits)								
Semester	**Major Subject (Core Subject) (4 Credits)**	**Additional/ Interdisciplinary subject/ Multidisciplinary (4 Credits)**	**Skill Course/ Vocational Course (2 Credits)**	**Ability Enhancement Courses (2 Credits)**	**Discipline specific/ Open Elective/Project (4 Credits)**	**Extracurricular Courses (2 Credits)**	**Value Added Courses/ VAC (2 Credits)**	**Total Credits**
III	Reproductive, Maternal Health, Child Health and Adolescent Health Introduction to Design and Evaluation of Public Health Programs Principles of Research Methods	Environment and Occupational Health	Not Applicable	Seminar/ Conference Presentation	Law and Ethics in Public Health	Indian Knowledge System	Human Values & Ethics	26
IV	Not Applicable	Not Applicable	Not Applicable	Internship*	DSE (Choose any one group)	Indian Constitution	Drug Abuse, Road Safety & Traffic Rules	30
Exit with Master in Public Health (104 Credits)								

Discipline Specific Elective (DSE-1) Choose any one group									
Electives of Epidemiology									
26PH411	Advanced Biostatistics	4	0	0	4	70	30	0	100
26PH412	Advanced Epidemiology	4	0	0	4	70	30	0	100
26PH413	Survey Design and Methods	4	0	0	4	70	30	0	100
26PH414	Communicable Disease Epidemiology	4	0	0	4	70	30	0	100
26PH415	Non-Communicable Disease Epidemiology	4	0	0	4	70	30	0	100
Electives of Health Programme, Policy and Planning									
26PH421	Health Policy, Process and Planning	4	0	0	4	70	30	0	100
26PH422	Design and Evaluation of Public Health Programmes (Including Current NHPs)	4	0	0	4	70	30	0	100
26PH423	Translating Research for Health Policy and Advocacy	4	0	0	4	70	30	0	100
26PH424	Current Issues in Health Policy: National and Global Perspective	4	0	0	4	70	30	0	100
26PH425	Role of Non-Governmental organizations in Health Care	4	0	0	4	70	30	0	100
Electives of Health System Management									
26PH431	Strategic Management, Innovations and Entrepreneurship in Health Care	4	0	0	4	70	30	0	100
26PH432	Advanced Operational Research	4	0	0	4	70	30	0	100
26PH433	Advanced Financial Management and Budgeting	4	0	0	4	70	30	0	100
26PH434	Organizational Management and Services	4	0	0	4	70	30	0	100
26PH435	Effective Advocacy and Communication in Public Health	4	0	0	4	70	30	0	100
Electives of Reproductive, Maternal, Neonatal, Child Health and Adolescent Health (RMNCH+A)									
26PH441	Reproductive and Sexual Health	4	0	0	4	70	30	0	100
26PH442	Maternal and Child Health	4	0	0	4	70	30	0	100
26PH443	Adolescent Health	4	0	0	4	70	30	0	100
26PH444	Gender and Health	4	0	0	4	70	30	0	100
26PH445	Public Health Nutrition	4	0	0	4	70	30	0	100

MPH

1st Semester

Detailed Syllabus

PRINCIPLES AND PRACTICES OF PUBLIC HEALTH

Code: 26PH101
Max. Marks:

Course Objectives: This course aims to provide students with a clear understanding of core public health concepts, including population health determinants, health promotion, disease prevention, environmental and occupational health, and health surveillance. Students will learn to apply public health principles to assess community health needs, design and evaluate public health interventions, and communicate effectively with diverse populations and stakeholders.

UNIT I: History, Context and Basic Principles & Practices of Public Health (08 Hrs)

- Introduction
- Public Health Definition: key terms with the mission of Public Health
- History of Public Health in India & Global
- Public Health as a system
- Interdisciplinary nature of public health

UNIT II: Concept of Public Healthcare & Medical care as well as Public Health Approach (08 Hrs)

- Introduction
- Concept of Medical care & Public Health care
- Ecology, responsibility, right to health
- Various Approaches to Public Health
- Healthcare in India: Approaches and challenges

UNIT III: Different Systems of Medicine (08 Hrs)

- Introduction
- Medicine in antiquity
- Scientific Medicine
- Modern Preventive and Social Medicine
- Indigenous system of medicine
- AYUSH
- Naturopathy
- Concept of Allopathic Medicine
- Concept of Holistic Medicine

UNIT IV: Basic Concept of Health & Level of Prevention (08 Hrs)

- Introduction
- Defining Health and Understanding the Concept of Different Approaches to Health
- Positive & Negative Concept of Health
- Concept of ill Health
- Dimensions of Health
- Basic concept of Prevention & Levels of Prevention

UNIT V: Basic Concept of Health Determinants (08 Hrs)

- Introduction
- Concept and definition of health, Spectrum of health

- Various dimensions of health and wellness (Positive health, wellness, illness, sickness, social, emotional, spiritual, environmental, occupational, intellectual and physical wellness),
- Concept of Health determinants (social and economic environment, physical environment, and a person's individual characteristics and behaviours.)
- Effect of various health determinants on health • Leading health indicators

Suggested Readings:

1. Introduction to Public Health; Presentation by Centre for Surveillance, Epidemiology and Laboratory Services; Division of Scientific Education and Professional Development, CDC
2. Changing concept of disease; Paul Thagard; Philosophy Department, University of Waterloo, Waterloo, Ontario, N2L 3G1; pthagard@watarts.uwaterloo.ca; © Paul Thagard, 1997
3. a-framework-for-public-health-action-the-health-impact-pyramid; Thomas R. Frieden, MD, MPH; American Journal of Public Health; April 2010, Vol 100, No. 4
4. Pitt SJ and Gunn A (2024) The One Health Concept; Br J Biomed Sci 81:12366; doi: 10.3389/bjbs.2024.12366
5. S Anand, St Catherine's College, Oxford OX1 3UJ, UK; J Epidemiol Community Health 2002;56:485–487
6. Braveman, P., Arkin, E., Orleans, T., Proctor, D., Acker, J., & Plough, A. (2018). What is health equity? Behavioural Science & Policy, 4(1), 1–14.

BASIC EPIDEMIOLOGY

Code: 26PH102
Max. Marks:

Course Objectives: This course introduces fundamental epidemiologic concepts and methods for studying disease distribution and determinants in populations. Objectives include understanding measures of disease frequency and association; study designs (descriptive, analytical, experimental); bias/confounding; outbreak investigation; and interpreting epidemiologic data for public health decision-making.

UNIT I: Epidemiology- Introduction **(08 Hrs)**

- Concepts of Epidemiology
- History and significance of epidemiology
- Aims of Epidemiology
- Clinical Versus epidemiological approach
- Applications and uses of epidemiology

UNIT II: Epidemiological concept of disease **(08 Hrs)**

- Concept of disease and its causation
- The natural history of the disease
- Epidemiological Triad
- Epidemiological triad in infectious diseases.
- Web causation of disease
- Iceberg theory

UNIT III: Epidemiological Methods **(08 Hrs)**

- Basic measurement in Epidemiology
- Measuring disease frequencies
- Principles of Screening, reliability and validity in epidemiology
- Incidences and prevalence

- Observational Studies
- Descriptive Epidemiology (Time, Place, and Person)
- Analytical (Ecological, Cross-Sectional, case-control and cohort studies)
- Bias, Confounders and Errors

UNIT IV: Experimental Epidemiology **(08 Hrs)**

- Defining Experimental Studies
- Randomised Controlled Trial (RCT), Basic concepts and types
- Field Trials
- Community Trials
- Systematic Reviews and Meta-Analysis

UNIT V: Outbreaks and Epidemic Investigations **(08 Hrs)**

- Endemic vs Endemic
- Outbreak vs Epidemic
- Sources of Information to detect outbreaks
- Early Warning Signals for an outbreak
- Why we should investigate the outbreak
- Steps for Outbreak Investigation
- Constraints of Field Outbreak Investigation
- Preparedness for prevention and controls for future outbreaks

Suggested Readings:

1. Kuller LH. Epidemiology: Then and Now. Am J Epidemiol. 2016 Mar 1;183(5):372-80. doi: 10.1093/aje/kwv158. Epub 2015 Oct 21. PMID: 26493266.
2. k. park-park's textbook of preventive and social medicine 23rd Edition 2005
3. Pearce N. Traditional epidemiology, modern epidemiology, and public health. Am J Public Health. 1996 May;86(5):678-83. doi: 10.2105/ajph.86.5.678. PMID: 8629719; PMCID: PMC1380476.

BASIC BIOSTATISTICS

Code: 26PH103
Max. Marks:

Course Objectives: This course develops foundational statistical skills for health research, covering descriptive statistics, probability, sampling, hypothesis testing, confidence intervals, basic regression, and appropriate use of statistical tests. Students will learn to analyse and interpret quantitative health data, choose suitable statistical methods, and critically evaluate biostatistical evidence in scientific literature.

UNIT I: Basic Concept of Data

- Concept Of Data
- Types Of Data,
- Displaying Data & Data Presentation,
- Tables And Graphs

UNIT II: Basic Calculations of Frequency and Variation

- Basic Calculations of Frequency and Variation
- Data Analysis
- Symmetric Distribution & Skewed Distribution
- Normal Distribution

UNIT III: Measures Of Central Tendency & Dispersion

- Measures Of Central Tendency (Mean, Median and Mode)
- Measures Of Variation
- Probability
- Internal & External Validity
- Sampling, Types of Sampling
- Sample Size Estimations

UNIT IV: Formulation Of Hypothesis and Its Testing

- P-Value
- Confidence Intervals,
- What is a Hypothesis?
- Null Vs. Alternate Hypothesis,
- Type I & Type II Error

UNIT V: Basic Statistical Test & Type of Error

- Basic Stats Tests
- Z -Test,
- T-Test,
- Chi-Square,
- Correlation,
- ANOVA
- Types of Errors

Suggested Readings:

1. Mahajan's Methods in Biostatistics for Medical Students and Research Workers; Eighth Edition; Arun Bhadra, Khanal Mahajan; JAYPEE; 2016
2. T.D.V. Swinscow, Statistics at Square One, 9th Edition, Revised by M.J. Campbell, University of Southampton, UK

3. Naing NN. Easy way to learn standardization: direct and indirect methods. Malays J Med Sci. 2000 Jan;7(1):10-5. PMID: 22844209; PMCID: PMC3406211.
4. Biostatistics for Dummies by John C. Pezzullo, PhD; John Wiley & Sons, Inc.; 2013
5. Basic Tools of Research: Sampling, Measurement, Distributions, and Descriptive Statistics; Part 2
6. Principles of Biostatistics; Marcello Pagano, Kimberlee Gauvreau; Harvard Medical School; 2000; Duxbury by Brooks/Cole

HEALTH SYSTEM AND POLICY IN DEVELOPING COUNTRIES

Code: 26PH111
Max. Marks:

Course Objectives: This course examines the structure, functions, financing, and governance of health systems in low- and middle-income countries, emphasizing access, equity, and quality of care. Objectives include understanding policy formulation and implementation, the role of public and private sectors, community health approaches, health financing mechanisms, and strategies to strengthen systems for universal health coverage.

UNIT I: Introduction to Health Policy and Health System

- Defining Policy
- Types and Need for Policy
- Historical aspect of Health Policy
- Landmark policies for health
- Health in the constitution
- Health Service Delivery structure in India (Horizontal v/s Vertical, Public v/s Private)
- Health for All Alma-Ata Declaration
- Laws related to health

UNIT II: Health Policy, Process and Planning

- Policy making: key components
- Policy framework
- Stakeholders in policy making
- Effects of different interest and advocacy groups in influencing health policy
- Short-term and long-term policies
- Introduction to various health policies

UNIT III: Health System Frameworks

- Understanding the Health system
- Framework for health systems
- Health System Building Blocks
- Governance
- Framework for analysis of governance
- Governance principles for the health system
- Health Governance analysis framework

UNIT IV: Translating research for Health Policy and Advocacy

- What is Power?
- Dimensions for power
- Different forms of power influential in policy making

- Different theories useful in policy analysis
- Political nature of evidence for policy making
- Critical appraisal of issues in health policy and financing
- Influence of international agencies on policies

UNIT V: Current Issues in health policy: National and Global perspective

- Different dimensions of international health and globalisation
- Effects of globalisation on health
- Changing the global health policy landscape
- New global health actors
- Assessing health impacts of different policies across sectors
- Role of NGOs in healthcare
- Intersectoral coordination in health, including public-private partnership

Suggested Readings:

1. A Social, Political and Public Health Analysis of Bhore Committee; Vikas Bajpai and Anoop Saraya; Social Change 2011 41: 215; DOI:10.1177/004908571104100202; Sage Publications
2. Fayol's 14 principles of management then and now: A framework for managing today's organisations effectively; Carl A Rodrigues; Management Decision; 2001; 39, 10; ABI/INFORM Global; pg. 880
3. Health care systems in transition III. India, Part 1. The Indian Experience; Imrana Qadeer, Journal of Public Health Medicine, Vol. 22, No. 1, pp. 25-32
4. Roemer, Milton (1977); Comparative National policies on Health care, New York; Marcel Dekker Inc; Chapter 1
5. GILL WALT, LUCY GILSON, Reforming the health sector in developing countries: the central role of policy analysis, Health Policy and Planning, Volume 9, Issue 4, December 1994, Pages 353–370
6. Burau, Viola and Blank, Robert H. (2006) 'Comparing health policy: An assessment of typologies of health systems', Journal of Comparative Policy Analysis: Research and Practice, 8: 1, 63 — 76.

BUSINESS COMMUNICATION

Code: 26GN102
Max Marks: 70

Course Objectives: The objective of the course is to develop effective verbal and written communication skills, understand professional communication in business settings and improve interpersonal and presentation skills.

UNIT I **(05 Hrs)**

Concepts and Fundamentals: Introduction to Technical Communication, Need and importance of communication, Channel, Distinction between general and technical communication, Nature and features of technical communication, Seven Cs of communication, Types of Technical communication, Style in technical communication, Technical communication skills, Language as a tool of Communication, History of development of Technical Communication, Computer Aided Technical Communication

UNIT II **(05 Hrs)**

Oral Communication: Principles of effective oral communication, Introduction of Self and others, Greetings, Handling Telephone Calls Interviews: Meaning & Purpose, Art of interviewing, Types of interviews, Interview styles, Essential, Techniques of interviewing, Guidelines for Interviewer, Guidelines for interviewee. Meetings: Definition, Kind of meetings, Agenda, Minutes of the Meeting, Advantages and disadvantages of meetings/ committees, Planning and organization of meetings. Project Presentations: Advantages & Disadvantages, Executive Summary, Charts, Distribution of time (presentation, questions & answers, summing up), Visual presentation, Guidelines for using visual aids, Electronic media (power-point presentation). The technique of conducting Group Discussion and JAM session.

UNIT III **(05 Hrs)**

Written Communication: Overview of Technical Writing: Definition and Nature of Technical Writing, Basic Principles of Technical Writing, Styles in Technical Writing.

Note – Making, Notice, E-mail Writing.

Writing Letters: Business letters, Persuasive letters- Sales letters and complaint letters, Office memorandum, Good news and bad news letters.

Report Writing: Definition & importance; categories of reports, Elements of a formal report, style and formatting in report.

Special Technical Documents Writing: Project synopsis and report writing, Scientific Article and Research Paper writing, Dissertation writing: Features, Preparation and Elements.

Proposal Writing: Purpose, Types, characteristics and structure.

Job Application: Types of application, Form & Content of an application, Drafting the application, Preparation of resume.

UNIT IV **(05 Hrs)**

Soft Skills: Business Etiquette – Professional Personality, Workplace Protocols, Cubicle. Non-Verbal Communication: Kinesics and Proxemics, Paralanguage.

Interpersonal Skills.

Language Skills: Improving command in English, improving vocabulary, Choice of words, Common problems with verbs, Adjectives, adverbs, Pronouns, Tenses, Conjunctions, punctuation, prefixes, suffixes, Idiomatic use of prepositions. Sentences and paragraph construction, Improve spellings, Common errors and misappropriation, Building advanced Vocabulary (Synonyms, Antonyms), Introduction to Business English.

Text Books:

1. Kavita Tyagi and Padma Misra , "Advanced Technical Communication", PHI, 2011
2. P.D.Chaturvedi and Mukesh Chaturvedi, "Business Communication – Concepts, Cases and Applications", Pearson, second edition.
3. Rayudu, "C. S- Communication", Himalaya Publishing House, 1994.
4. Asha Kaul, "Business Communication", PHI, second edition.

Suggested Readings:

1. Raymond Murphy, "Essential English Grammar- A self-study reference and practice book for elementary students of English", Cambridge University Press, second edition.
2. Manalo, E. & Fermin, V. (2007). Technical and Report Writing. ECC Graphics. Quezon City.
3. Kavita Tyagi and Padma Misra, "Basic Technical Communication", PHI, 2011.
4. Herta A Murphy, Herbert W Hildebrandt and Jane P Thomas, "Effective Business Communication", McGraw Hill, seventh edition.

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HEALTH MANAGEMENT: MANAGEMENT PRINCIPLES AND PRACTICES (STRATEGIC MANAGEMENT)

Code: 26PH121
Max. Marks:

Course Objectives: This course focuses on strategic management principles applicable to health organizations, including strategic analysis, goal-setting, planning, resource allocation, performance measurement, and change management. Students will develop skills to formulate and implement strategic plans, lead organizational change, and apply managerial tools to improve efficiency, quality, and sustainability of health services.

UNIT I **(10 Hrs)**
Basic knowledge of health care systems and the environment in which healthcare managers and providers function
Health Programmes: planning, implementation, monitoring, and Evaluation
Components of strategic management

UNIT II **(10 Hrs)**
Project management
Behavioural aspects of governmental, faith-based, and other non–governmental organisations
Introduction to logistics management

UNIT III **(10 Hrs)**
Introduction to Human Resource Management
Quality: define quality, its importance in public health, measures to manage and improve equality
Introduction to Operational Research

UNIT IV **(10 Hrs)**
Risk management
Effective management of Health Management Information Systems (HMIS) and its application
Public Health Leadership

Suggested Readings:

1. Adaptive health management information systems: concepts cases and practical applications; Joseph Tan and Fay Cobb Payton; 3rd edition; Jones and Bartlett Publishers; 2010
2. Annual_Report_to_the_People_on_Health_Government of India; Ministry of Health and Family Welfare; September 2010
3. "BMW_Rules_2016, Published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i)]
4. GOVERNMENT OF INDIA MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE; NOTIFICATION; New Delhi, the 28th March, 2016"
5. Burden_of_Disease_Estimations_and_Casual_analysis; Choosing Investments in Health' prepared by Dr Ajay Mahal, Assistant Professor, Harvard School of Public Health, USA, for the National Commission on Macroeconomics and Health.; 2010
6. Agarwal, A. & Garg, Shalini & Pareek, U.. (2011). Strengthening human resource practices in healthcare in India: The road ahead. Journal, Indian Academy of Clinical Medicine. 12. 38-43.
7. HANDBOOK OF SUPPLY MANAGEMENT AT FIRSTLEVEL HEALTH CARE FACILITIES; 1st version for country adaptation; WHO 2006
8. Saikia, Dilip. (2017). Human Resource Challenges in the Public Health Sector in Rural India. The Journal of Institute of Public Enterprise. 40. 1-30. 10.2139/ssrn.2985393.
9. Kabatereine NB, Malecela M, Lado M, Zaramba S, Amiel O, et al. (2010) How to (or Not to) Integrate Vertical Programmes for the Control of Major Neglected Tropical Diseases in Sub-Saharan Africa. PLoS Negl Trop Dis 4(6): e755. doi:10.1371/journal.pntd.0000755

10. Oliveira Cruz, Valeria & Kurowski, Christoph & Mills, Anne. (2003). Delivery of Priority Health Services: Searching for synergies within the vertical versus horizontal debate. Journal of International Development. 15. 67-86. 10.1002/jid.966.
11. Logistics-for-SCM-in-FP-and-Health-Guide_USAID_2009; USAID; July 2009
12. LFA know how; AusAID; October 2005
13. Orobaton, N., & Uggowitzer, S. (2016). The case for a national health Information system architecture; a missing link to guiding national development and implementation.

LIFE SKILLS & PERSONALITY DEVELOPMENT

Code: 26GN101
Max Marks: 70

Course Objective: The Life Skills and Personality Development Course aim to equip participants with essential skills and knowledge to enhance their personal growth, interpersonal relationships, and overall well-being. The course is designed to empower individuals to navigate various life situations effectively, develop a positive self-image, and foster the traits necessary for a successful and fulfilling life.

UNIT I: Career and Professional Skills Career and Professional Skills (04 Hrs)

Listening Skills, Reading Skills, Writing Skills, Effective Resume preparation, Interview Skills, Group Discussion Skills, Exploring Career Opportunities, Psychometric Analysis and Mock Interview Sessions Team Skills: Cognitive and Non-Cognitive Skills, Presentation Skills, Trust and Collaboration, Listening as a Team Skill, Brainstorming, Social and Cultural Etiquettes, Digital Skills: Computer skills, Digital Literacy and social media, Digital Ethics and Cyber Security

UNIT II: Attitude and Motivation Attitude (04 Hrs)

Concept, Significance, Factors affecting attitudes, Positive attitude - Advantages, Negative attitude- Disadvantages, Ways to develop a positive attitude, Difference between personalities having positive and negative attitudes. Motivation: Concept, Significance, Internal and external motives - Importance of self- motivation- Factors leading to de-motivation, Maslow's Need Hierarchy Theory of Motivation

UNIT III: Stress-management and Development of Capabilities (04 Hrs)

Development of will power, imagination through yogic lifestyle, Development of thinking, emotion control and discipline of mind through Pranayama, Improvement of memory through meditation. Stress: meaning, causes, and effects of stress in life management, Stress: psycho-physical mechanism, management of stress through Yoga.

UNIT IV: Other Aspects of Personality Development (04 Hrs)

Body language - Problem-solving - Conflict and Stress Management - Decision-making skills -Leadership and qualities of a successful leader - Character-building -Team-work - Time management -Work ethics – Good manners and etiquette.

UNIT V: Health and Hygiene (04 Hrs)

Health and Hygiene- Meaning and significance for Healthy Life, Exercise and Nutrition and Immunity. Obesity- Meaning, Types and its Hazards. - Physical Fitness and Health Related Physical Fitness- Concept, Components and Tests, Adventure Sports.

Suggested Readings:

1. Barun K. Mitra, "Personality Development & Soft Skills", Oxford Publishers, Third impression, 2017.
2. Ghosh, Shantikumar. 2004. Universal Values. Kolkata: The Ramakrishna Mission Larry James, "The First Book of Life Skills"; First Edition, Embassy Books, 2016.

MPH

2nd Semester

ARYAVART INTERNATIONAL UNIVERSITY
Tilthai, Dharmanagar, North Tripura

Detailed Syllabus
DEMOGRAPHY AND POPULATION SCIENCE

Code: 26PH201
Max. Marks:

Course Objectives: The course aims to provide students with a clear understanding of population dynamics by explaining core demographic concepts (fertility, mortality, migration, population structure), methods of demographic measurement and data sources, and basic population projection techniques. Equip learners to interpret demographic indicators, analyse population trends and their social, economic, and environmental implications, and apply demographic evidence to inform public policy, health planning, and resource allocation.

UNIT I: Basic Concept & Definition of Demography **(08 Hrs)**

- Concept & Scope of Demography
- Demographic Process
- Types of Demography

UNIT II: Demographic Structure and Cycle **(08 Hrs)**

- Basic Structure of Demography
- Stages of Demographic Cycle
- Stages of Demographic Cycle with Countries

UNIT III: Demographic Transition & Trends in Developing & Developed Regions **(08 Hrs)**

- Various Stages of Demographic Transition
- Causes of Demographic Transition
- Demographic Transition Theory &Model
- Demographic Transition in Japan, America and France
- Demographic Trends in India

UNIT IV: Fertility & Mortality Indicators & Trends **(08 Hrs)**

- Measurement of Mortality
- Measurement of Mobility
- Measurement of Disability
- Measurement of Natality
- Measurement of Demographic Variables
- Tools of Measurement
- Fertility & Mortality Trends in India

UNIT V: Population Pyramid, Impact of Ageing **(08 Hrs)**

- Concept of Population Pyramid
- Objectives of the Population Pyramid
- Types of Population Pyramid
- Impact of Ageing Population
- Social Impacts of Ageing Population

Suggested Readings:

1. Ponnapalli, R., Ponnapalli, K. M., & Subbiah, A. (2013). Aging and the Demographic Transition in India and Its States: A Comparative Perspective. International Journal of Asian Social Science, 3(1), 171–193.
2. Saroha, J. & Dr. B.R. Ambedkar College, University of Delhi. (2017). Demographic transition in India. In IJRAR- International Journal of Research and Analytical Reviews (Vol. 4, Issue 4, pp. 193–194)
3. Wan Ahmad, Wan Ibrahim & Astina, I Komang & Budijanto, Budijanto. (2015). Demographic Transition and Population Ageing. Mediterranean Journal of Social Sciences. 6. 10.5901/mjss.2015.v6n3s2p213.

4. Griffith, Alden & Salguero-Gómez, Roberto & Merow, Cory & McMahon, Sean. (2016). Demography beyond the population. Journal of Ecology. 104. 271-280. 10.1111/1365-2745.12547.
5. Palmore, James A. and Robert W. Gardner. "Measuring Mortality, Fertility and Natural Increase: A Self-Teaching Guide to Elementary Measures." (1983).
6. Aryal, G. R. (2020). Methods of Population Estimation and Projection. Journal of Population and Development, 1(1), 54–61.
7. Poston, Dudley & Heo, Nayoung. (2023). Demography. 10.1002/9781405165518.wbeosd026.pub2.
8. Sadashivam, T. & Tabassum, Shahla. (2016). TRENDS OF URBANIZATION IN INDIA: ISSUES AND CHALLENGES IN THE 21ST CENTURY. 3. 2375-2384.
9. Shaykheeva, D. & Panasyuk, M.V. & Malganova, Irina, & Khairullin, I. (2016). World population estimates and projections: Data and methods. 17. 237-24

INTRODUCTION TO HEALTH ECONOMICS

Code: 26PH202
Max. Marks:

Course Objectives: The course aims to introduce fundamental economic principles as they apply to health and healthcare systems, including supply and demand, market failures, and the role of government. Develop students' ability to evaluate costs, benefits, and efficiency of health interventions using basic cost-effectiveness and cost–benefit concepts, and to interpret economic evidence for decision-making in health policy, financing, and priority setting.

UNIT I: Basic concepts of economics: Principles of macroeconomics and microeconomics (08 Hrs)

- Meaning & Definitions Health Economics.
- Relevance of Economics in Health and Medical Care.
- Micro-economic tools for health economics.
- Concept of Scarcity, Abundance and efficient use of resources
- Flow of money, resources and commodities

UNIT II: Economics of Healthcare Services in India (08 Hrs)

- Public Sector healthcare services in India.
- Private Sector healthcare services in India.
- Demand for Healthcare
- Supply for Healthcare
- Financial incentives by the government for healthcare.
- Stakeholders of the healthcare industry.
- Market Structure and Price Determination

UNIT III: Fundamentals of Health Insurance (08 Hrs)

- Health Insurance
- Economic benefits of health insurance
- Types of Health Insurance
- Employee Health Insurance Scheme
- Universal Health Coverage and other health programs

UNIT IV: Cost analysis for managerial Decisions (08 Hrs)

- Costs: Conceptual Foundations
- Understanding Cost Classifications
- Programme Costing
- Use of Cost Data by Programme Managers

- Cost Allocation
- Cost Volume Profit Analysis
- Standard Costing and Variance Analysis

UNIT V: Economic Evaluation for Decision Making **(08 Hrs)**

- Cost Minimisation Analysis
- Cost Effectiveness Analysis
- Cost-Utility Analysis
- Cost-Benefit Analysis
- Steps for Economic Evaluation
- Identification of Cost and Consequences

Suggested Readings:

1. Principles of Microeconomics, 5th edition; N. Gregory Mankiw (Harvard University); South-Western, a part of Cengage Learning; 2008
2. Deloitte and Confedration of Indian Industries (CII); July 2010
3. Microeconomics; Robert S. Pindyck, Daniel L. Rubinfeld. – 8th edition; 2013
4. Principles of Macroeconomics, 7th edition; N. Gregory Mankiw (Harvard University); Worth Publishers; 2010
5. The economics of health and health care/Sherman Folland, Allen C. Goodman, Miron Stano.—7th edition; 2013
6. Kutzin J. Health financing for universal coverage and health system performance: concepts and implications for policy. Bull World Health Organ. 2013 Aug 1;91(8):
7. Arrow, K. J. & Stanford University. (1963). UNCERTAINTY AND THE WELFARE ECONOMICS OF MEDICAL CARE. In THE AMERICAN ECONOMIC REVIEW
8. Zilberberg MD, Shorr AF. Understanding cost-effectiveness. Clin Microbiol Infect. 2010 Dec;16(12):1707-12. doi: 10.1111/j.1469-0691.2010.03331.x. PMID: 20673258.

ARYAVART INTERNATIONAL UNIVERSITY
Tilthai, Dharmanagar, North Tripura

HEALTH PROMOTION APPROACHES AND METHODS

Code: 26PH203
Max. Marks:

Course Objectives: The course aims to familiarise students with theory-driven health promotion frameworks, determinants of health, and population-level strategies to prevent disease and improve well-being. Build practical skills in planning, implementing, and evaluating health promotion interventions using participatory, community-based, and settings-based approaches; emphasise behaviour change theories, stakeholder engagement, and measurement of process and outcome indicators.

UNIT I: Introduction to Health Education **(08 Hrs)**

- Concept of Health Education & its principles
- Various approaches to achieve better Health
- Contents of Health Education
- Stages in adoption to new ideas and approaches of Health Education
- Educational Aids in Health Education
- Methods of Health Education

UNIT II: Introduction to Health Promotion **(08 Hrs)**

- Concept of Health Promotion & its principles
- Contents of Health Promotion
- Conceptual framework for Health Promotion
- Approaches for Health Promotion
- Problems facing Health Promotion in developing countries
- Health Education Vs Health Promotion

UNIT III: Introduction to Health Communication **(08 Hrs)**

- Stages and Levels of Health Communication.
- Principles of Communication.
- Key Components of Communication
- Communication Process
- Types and Forms of Communication
- Barriers to Health Communication

UNIT IV: Communication strategies for Health Promotion **(08 Hrs)**

- Concept of IEC: Definition, Importance, Objective & component of IEC
- Planning of IEC in Health Sector
- Role of Mass Media in Health Education & Awareness
- Role of Folk Media in Health Promotion
- Role of Social Media in Health Promotion

UNIT V: Evaluation for Health Promotion Plans **(08 Hrs)**

- Designing Health promotion and communication strategies
- Media Advocacy
- Community Mobilization
- Importance of Research in Health Communication

Suggested Readings:

1. Mokhtari M, Banaye Jeddi M, Majidi A, Jafari Khoinagh A, Holakoi Naeeni K. Community assessment for identification and prioritization of problems to establish health promotion operational plans. J Research Health 2013

2. Carvalho, Antônio & Bodstein, Regina & Hartz, Zulmira & Matida, Alvaro. (2004). Concepts and approaches in the evaluation of health promotion. Ciencia & Saude Coletiva - CIENC SAUDE COLETIVA. 9. 10.1590/S1413-81232004000300002.
3. Lupton D. Health promotion in the digital era: a critical commentary. Health Promot Int. 2015 Mar;30(1):174-83. doi: 10.1093/heapro/dau091. Epub 2014 Oct 15.
4. Jackson SF, Perkins F, Khandor E, Cordwell L, Hamann S, Buasai S. Integrated health promotion strategies: a contribution to tackling current and future health challenges. Health Promot Int. 2006 Dec;21 Suppl 1:75-83. doi: 10.1093/heapro/dal054.
5. White, K. (2017). Sociology of Health and Illness: An Introduction to the 3rd edition (Natalie Aguilera, Ed.; 3rd ed.). SAGE Publications Ltd.
6. Nyblade L, Stockton MA, Giger K, Bond V, Ekstrand ML, Lean RM, Mitchell EMH, Nelson RE, Sapag JC, Siraprapasiri T, Turan J, Wouters E. Stigma in health facilities: why it matters and how we can change it. BMC Med. 2019 Feb 15;17(1):25.
7. Stangl, A.L., Earnshaw, V.A., Logie, C.H. et al. The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. BMC Med 17, 31 (2019).
8. Society and Health; Sociology for Health Professionals; Richard K. Thomas, Ph.D.; 2003 Kluwer Academic/Plenum Publishers
9. WHO Health Promotion Glossary: new terms; BEN J. SMITH, KWOK CHO TANG1 and DON NUTBEAM; Oxford University Press; 2006
10. Bhasin, Veena. (2007). Medical Anthropology: A Review. Ethnomedicine. 1. 10.1080/09735070.2007.11886296.

INTRODUCTION TO FINANCIAL MANAGEMENT AND BUDGETING

Code: 26PH211
Max. Marks:

Course Objectives: The course aims to teach foundational principles of financial management in health and related organisations, including budgeting processes, financial reporting, fund flow, and basic accounting concepts. Enable students to prepare, monitor, and analyse budgets, assess financial performance using simple ratios and variance analysis, and apply budgetary controls to support transparent, efficient, and sustainable program implementation.

UNIT I: Introduction to Financial Management **(08 Hrs)**

- Health spending scenario: Indian and global
- Health Financing Policy
- Importance of Health Financing Policy
- Mechanism of Healthcare Financing
- Three functions of Health financing: Collection, Pooling and Purchasing
- Payment mechanisms

UNIT II: Tools of Financial Analysis and Planning in Healthcare **(08 Hrs)**

- Mechanism of health care financing
- General revenue, Social insurance schemes, private insurance premiums, community financing, out-of-pocket expenditure
- Risk pooling
- Basic concepts of Pooling
- Advantages of the pooling mechanism
- Types of pooling mechanisms

- Principles of Pooling
- Feasibility
- Equity
- Efficiency
- Sustainability
- Pooling and distribution

UNIT III: Cash Flow, Accounts and Balancing Budgets **(08 Hrs)**

- Purchasing
- Resource allocation
- Provider payment mechanism
- Budget
- Importance of Budgeting in Health sector
- Factors affecting budget
- Types of Budgeting in Healthcare

UNIT IV: Health Insurance **(08 Hrs)**

- Health insurance
- History of Health Insurance
- Values in health insurance
- Types of health insurance
- Advantages of health insurance
- Problems with health insurance
- Premiums and types of premiums
- Social Health Insurance
- CGHS
- ESIS

UNIT V: Sustainability of Health Programs **(08 Hrs)**

- Costs: Conceptual Foundations
- Understanding Cost Classifications
- Programme Costing
- Allocative Efficiency
- Use of Cost Data by Programme Managers
- Cost Allocation
- Cost Volume Profit Analysis
- Standard Costing and Variance Analysis

Suggested Readings:

1. Preker AS, Carrin G, Dror D, Jakab M, Hsiao W, Arhin-Tenkorang D. Effectiveness of community health financing in meeting the cost of illness. Bull World Health Organ. 2002;80(2):143-50. PMID: 11953793; PMCID: PMC2567719.
2. Patel P. Efficacy, Effectiveness, and Efficiency. Natl J Community Med 2021;12(2)
3. Personal document from a credible expert
4. Liaropoulos L, Goranitis I. Health care financing and the sustainability of health systems. Int J Equity Health. 2015 Sep 15;14:80. doi: 10.1186/s12939-015-0208-5.
5. Lawson, R.A.. (2005). The use of activity-based costing in the healthcare industry: 1994 vs. 2004. Research in Healthcare Financial Management. 10. 77-94.
6. Perleth M, Jakubowski E, Busse R. What is 'best practice' in health care? State of the art and perspectives in improving the effectiveness and efficiency of the European health care systems. Health Policy. 2001 Jun;56(3):235-50. doi: 10.1016/s0168-8510(00)00138-x. PMID: 11399348.

ARYAVART INTERNATIONAL UNIVERSITY
Tilthai, Dharmanagar, North Tripura

ENVIRONMENTAL STUDIES

Code: 26GN201
Max Marks: 70

Course Objectives: The course will empower the students by gaining in-depth knowledge on natural processes that sustain life and govern economy, predicting the consequences of human actions on the web of life, global economy and quality of human life, developing critical thinking for shaping strategies (scientific, social, economic and legal) for environmental protection and conservation of biodiversity, social equity and sustainable development, acquiring values and attitudes towards understanding complex environmental economic-social challenges, and participating actively in solving current environmental problems and preventing the future ones and adopting sustainability as a practice in life, society and industry.

UNIT I: Introduction to Environmental Studies **(5 Hrs)**

- Environmental studies: Nature, Scope and Importance; Components of environment: atmosphere, hydrosphere, lithosphere, and biosphere; Concept of sustainability and sustainable development.
- Emergence of environmental issues: Climate change, Global warming, Ozone layer depletion, Acid rain etc.; International agreements and programmer: Earth Summit, UNFCCC, Montreal and Kyoto protocols, Convention on Biological Diversity (CBD), Ramsar convention, UNEP, CITES, etc.

UNIT II: Ecosystems and Natural Resources: **(5 Hrs)**

- Definition and concept of Ecosystem; Structure of ecosystem (biotic and abiotic components); Functions of Ecosystem: Physical (energy flow), Biological (food chains, food web, ecological succession), ecological pyramids and homeostasis; Types of Ecosystems: Tundra, Forest, Grassland, Desert, Aquatic (ponds, streams, lakes, rivers, oceans, estuaries); importance and threats with relevant examples from India.
- Ecosystem services (Provisioning, Regulating, Cultural, and Supporting); Ecosystem preservation and conservation strategies; Basics of Ecosystem restoration.
- Energy resources: Renewable and non-renewable energy sources; Use of alternate energy sources; Growing energy needs; Energy contents of coal, petroleum, natural gas and bio gas; Agro-residues as a biomass energy source.

UNIT III: Biodiversity and Conservation **(5 Hrs)**

- Definition of Biodiversity; Levels of biological diversity: genetic, species and ecosystem diversity.
- India as a mega-biodiversity nation; Biogeographic zones of India; Biodiversity hotspots; Endemic and endangered species of India; IUCN Red list criteria and categories.
- Value of biodiversity: Ecological, economic, social, ethical, aesthetic, and informational values of biodiversity with examples.
- Threats to biodiversity: Habitat loss, degradation, and fragmentation; Poaching of wildlife; Man-wildlife conflicts; Biological invasion with emphasis on Indian biodiversity; Current mass extinction crisis.
- Biodiversity conservation strategies: in-situ and ex-situ methods of conservation (National Parks, Wildlife Sanctuaries, and Biosphere reserves.

UNIT IV: Environmental Pollution and Control Measures: **(5 Hrs)**

- Environmental pollution (Air, water, soil, thermal, and noise): causes, effects, and controls; Primary and secondary air pollutants; Air and water quality standards.
- Nuclear hazards and human health risks.
- Solid waste management: Control measures for various types of urban, industrial waste, Hazardous waste, E-waste, etc.; Waste segregation and disposal.

Text Books:

1. Sanjay Kumar Batra, Kanchan Batra, Harpreet Kaur; "Environmental Studies"; Taxmann's, Fifth Edition.
2. M. M. Sulphey; "Introduction to Environment Management"; PHI Learning, 2019.
3. S. P. Mishra, S. N. Pandey; "Essential Environmental Studies"; Ane Books Pvt. Ltd.; Sixth Edition.

Suggested Readings:

1. Asthana, D. K. (2006). "Text Book of Environmental Studies". S. Chand Publishing.
2. Basu, M., Xavier, S. (2016). "Fundamentals of Environmental Studies", Cambridge University Press, India.
3. Bharucha, E. (2013). "Textbook of Environmental Studies for Undergraduate Courses". Universities Press.
4. Mahapatra, R., Jeevan, S. S., Das, S. (Eds) (2017). "Environment Reader for Universities", Centre for Science and Environment, New Delhi.
5. Masters, G. M. & Ela, W. P. (1991). "Introduction to environmental engineering and science". Englewood Cliffs, NJ: Prentice Hall.
6. Odum, E. P., Odum, H. T. & Andrews, J. (1971). "Fundamentals of Ecology". Philadelphia: Saunders.
7. Sharma, P. D. & Sharma, P. D. (2005). "Ecology and Environment". Rastogi Publications.

SOCIAL AND BEHAVIOURAL CHANGE, EFFECTIVE COMMUNICATION IN HEALTHCARE

Code: 26PH221
Max. Marks:

Course Objectives: The course aims to equip students with the theoretical foundations of social and behaviour change and practical communication skills for health contexts, including audience segmentation, message design, and channel selection. Strengthen competencies in counselling, interpersonal communication, risk communication, and use of mass/social media to foster healthy behaviours; emphasise formative research, monitoring, and adaptation to cultural and ethical considerations.

UNIT I: Introduction to Social and Behavioural Sciences **(08 Hrs)**

- Concept of Sociology, Medical Sociology & Social Medicine
- Concept of Social Epidemiology
- Need for the study of Sociology & Medical Sociology
- Concept of Society, Community, Culture & Social Pathology

UNIT II: Understanding Indian Society, its stratification and diversity **(08 Hrs)**

- History of Anthropology
- Vision of Anthropology
- Different Fields of Anthropology
- Concept, origin & Causes of Social Stratification
- Impacts of Social Stratification on Our Lives
- Forms of Social Stratification

UNIT III: Introduction to Social and Behavioural Theories **(08 Hrs)**

- Sociological theories
- Functionalism
- Symbolic Interactionism
- Conflict Perspective

UNIT IV: Health-Seeking Behaviours and Models **(08 Hrs)**

- Illness, Disease, Health & Wellbeing
- Dimensions and Determinants of Health

- Health Behaviours
- Types of Health Behaviour
- Illness and Sickness roles
- Health Seeking Behaviour
- Theories and Models for understanding health behaviours and behavioural change

UNIT V: Social Epidemiology **(08 Hrs)**

- Biopsychosocial Paradigm
- The Population Perspective
- Multi-Level Analysis
- Gender and Health
- Stigma and exclusion

Suggested Readings:

1. Wayne W. LaMorte, MD, PhD, MPH; August 29, 2018; Boston University School of Public Health
2. Making Health Communications Work", U.S. Department of Health & Human Services. Public Health Service. National Institutes of Health and National Cancer Institute
3. Goyet. (n.d.). Community participation. In Manual (pp. 177–179). https://ec.europa.eu/echo/files/evaluation/watsan2005/annex_files/WEDC/es/ES12CD.pdf
4. Ravi, P. (2021). Significance of Non-Verbal Communication in Effective Healthcare Management. www.academia.edu.
5. Dominika Kwasnicka, Stephan U Dombrowski, Martin White & Falko; Sniehotta (2016) Theoretical explanations for maintenance of behaviour change: a systematic review of behaviour theories, Health Psychology Review, 10:3, 277-296, DOI: 10.1080/17437199.2016.1151372
6. Welch, D. (2017). Behaviour changes and theories of practice: Contributions, limitations and developments. Social Business, 7(3-4), 241-261.Article 21. https://doi.org/10.1362/204440817X15108539431488
7. Rachel Davis, Rona Campbell, Zoe Hildon, Lorna Hobbs & Susan; Michie (2015) Theories of behaviour and behaviour change across the social and behavioural sciences: a scoping review, Health Psychology Review, 9:3, 323-344, DOI: 10.1080/17437199.2014.941722

ARYAVART INTERNATIONAL UNIVERSITY
Tilthai, Dharmanagar, North Tripura

HEALTH & WELLNESS

Code: 26GN202
Max Marks: 70

Course Objectives: The objective of the course is to introduce learners to the concept of health and wellness and its relevance in daily life; to introduce the relation between mind and body and its relevance; and to introduce learners to health behaviour and the promotion of human strengths for well-being.

UNIT I: INTRODUCTION TO HEALTH & WELLNESS **(10 Hrs)**

- Definition of health- WHO definition
- Importance of health in everyday life
- Components of health- physical, social, mental, spiritual and its relevance
- Concept of wellness
- Mental Health & wellness
- Determinants of health behaviours
- Using the mass media for health promotion

UNIT II: MIND – BODY AND WELL-BEING **(10 Hrs)**

- Mind- Body connection in health- concept and relation
- Implications of mind-body connections.
- Wellbeing- why it matters?
- Digital wellbeing
- Understanding health beliefs, and perspectives of indigenous people about Assam and North East India
- Promoting Human strengths and life enhancement: Classification of human strengths and virtues; cultivating inner strengths: Hope and optimism

Suggested Readings:

1. Carr, A. (2004). Positive Psychology: The science of happiness and human strength. UK: Routledge.
2. Forshaw, M. (2003). Advanced psychology: Health psychology. London: Hodder and Stoughton. Hick,
3. J.W. (2005).Fifty signs of Mental Health. A Guide to understanding mental health. Yale University Press.
4. Snyder, C.R., &Lopez, S.J.(2007). Positive psychology: The scientific and practical explorations of human strengths. Thousand Oaks, CA: Sage.

MPH

3rd Semester

ARYAVART INTERNATIONAL UNIVERSITY
Tilthai, Dharmanagar, North Tripura

Detailed Syllabus

REPRODUCTIVE, MATERNAL HEALTH, CHILD HEALTH AND ADOLESCENT

Code: 26PH301
Max. Marks:

Course Objectives: The course aims to enable students to describe the epidemiology, determinants, and lifecycle approach to reproductive, maternal, newborn, child and adolescent health (RMNCAH); assess major interventions and service delivery models; apply evidence-based preventive and clinical strategies to reduce morbidity and mortality; design community- and facility-level programs that strengthen continuity of care across life stages; and evaluate policies and indicators for monitoring RMNCAH outcomes and equity.

UNIT I: Introduction to the RMNCH+A **(08 Hrs)**

- What is RMNCH+A?
- Key features of RMNCHA+A
- Components of RMNCH+A
- Historical context
- Evolution
- Coverage and Innovations

UNIT II: Components of service delivery under RMNCH+A, Innovations and Evaluation **(08 Hrs)**

- Maternal, Newborn and Child Health (MNCH) services
- Related government and other programs
- Recent advancements and innovations in service delivery
- Evaluation Framework
- Factors affecting utilization of services
- Phases of delay
- RCH Indicators
- Factors affecting the success and failure of any RCH program

UNIT III: Adolescent health **(08 Hrs)**

- Adolescence
- Importance in current scenario
- Adolescent Health Problems: Global and Indian Context
- Reproductive and sexual health
- Issues concerned with Adolescent Health
- Adolescent Health Programs
- Challenges concerning adolescent health

UNIT IV: Evolution of RCH services in the country **(08 Hrs)**

- National Family Planning Programme -1952
- National Family Welfare Programme - 1977
- Universal Immunisation Programme - 1985
- Child Survival and Safe Motherhood Programme-1992
- RCH (Phase-I) 1997
- RCH (Phase-II) 2005
- Millennium Development Goals (MDG's)
- Sustainable Development Goals (SDG's)

- Role of media in the propagation of RCH

UNIT V: Global strategies to improve maternal health **(08 Hrs)**

- Innovations in service delivery
- Task shifting
- Conceptual Framework for Task Shifting
- Task shifting efforts in India
- Lessons learnt for other countries

Suggested Readings:

1. Bruns, H. R., SN. (2016). Government-Led Programs to Improve Maternal and Infant Health in India: a Systematic Review of Literature. In J. Kue & The Ohio State University, The Ohio State University [Journal-article]
2. Vellakkal, S., Gupta, A., Khan, Z., Stuckler, D., Reeves, A., Ebrahim, S., Bowling, A., & Doyle, P. (2016). Has India's national rural health mission reduced inequities in maternal health services? A pre-post repeated cross-sectional study. Health Policy and Planning, 32(1), 79–90.
3. Sahadevan, S., Iang, M. D., & Dureab, F. (2023). Effect of adolescent health policies on health outcomes in India. Adolescents, 3(4), 613–624.
4. Kaur, G., Gupta, K., & Shyam, S. (2021). Evaluation of antenatal services at Family welfare Centre under RMNCH+A Programme in Delhi. Journal of Family Medicine and Primary Care, 10(10), 3869–3875.
5. Wadhwa, R., Chaudhary, N., Bisht, N., Gupta, A., Behera, N., Verma, A. K., Chopra, M., Jain, M., Verma, G., Gupta, S., Taneja, G., & Gera, R. (2018). Improving adolescent health services across high priority districts in 6 states of India: Learnings from an integrated reproductive maternal newborn child and adolescent health project. Indian Journal of Community Medicine, 43(5), 6.
6. Das, A. K., Yadav, A., Population Council Consulting, & LEHS, WISH Foundation. (2023). A Critical Review of India's RMNCH+A Strategy (2014) to achieve UN SDG 2030 goal for Neonatal Mortality Rate [Article]. Demography India, 119.
7. Taneja, G., Sridhar, V. S., Mohanty, J. S., Joshi, A., Bhushan, P., Jain, M., Gupta, S., Khera, A., Kumar, R., & Gera, R. (2019). India's RMNCH+A Strategy: approach, learnings and limitations. BMJ Global Health, 4(3), e001162.
8. Engmann, C. M., Khan, S., Moyer, C. A., Coffey, P. S., & Bhutta, Z. A. (2016). Transformative Innovations in Reproductive, Maternal, Newborn, and Child Health over the Next 20 Years. PLoS Medicine, 13(3), e1001969.
9. McDonald, Et. Al., World Health Organization, & Department of Gender and Women's Health. (2002). Gender analysis in health: A review of selected tools [Review]. In World Health Organization, World Health Organization.

INTRODUCTION TO DESIGN AND EVALUATION OF PUBLIC HEALTH PROGRAMS

Code: 26PH302
Max. Marks:

Course Objectives: The course aims to introduce core concepts of program planning, logical framework development, and theory of change; teach methods for setting measurable objectives, selecting appropriate interventions and delivery channels, and budgeting; train students in quantitative and qualitative evaluation designs (process, outcome, impact), indicator selection, and basic data analysis; and cultivate skills to use evaluation findings for program improvement, scale-up, and policy decision-making.

UNIT I: Health Programs in India **(08 Hrs)**

- Historical Perspective
- National Health Mission (NHM).
- NACP, NTEP, NLEP, NVBDCP
- NPCDCS, NPCB, NOHP, NNM, RMNCH+A

UNIT II: Concepts underlying the design of health programs **(08 Hrs)**

- Concepts of health program design
- Principles of program design
- Importance of program design

UNIT III: Fundamental Components of Health Program **(08 Hrs)**

- Stakeholders, Partnerships& Team building
- Importance of Social Determinants in a health program
- Community outreach and its importance
- Importance of focus on outcomes
- Development of community-centric interventions
- Technology and its use in health programs

UNIT IV: Monitoring of health programs **(08 Hrs)**

- Defining Monitoring.
- Monitoring methods.
- Issues in Monitoring
- Use of Indicators in Monitoring
- Importance of Monitoring in health programs

UNIT V: Evaluation of health programs **(08 Hrs)**

- Defining Evaluation
- Types of Evaluation
- Development of Evaluation Framework
- Issues in Evaluation
- Use of Indicators in Evaluation
- Importance of Evaluation in health programs

Suggested Readings:

1. Lacouture, A., Breton, E., Guichard, A., & Ridde, V. (2015). The concept of mechanism from a realist approach: a scoping review to facilitate its operationalization in public health program evaluation. Implementation Science, 10(1).
2. Quasdorf, T., Clack, L., Uribe, F. L., Holle, D., Berwig, M., Purwins, D., Schultes, M., & Roes,

3. M. (2021). Theoretical approaches to process evaluations of complex interventions in health care: a systematic scoping review protocol. Systematic Reviews, 10(1).
4. Brownson, R. C., Fielding, J. E., & Christopher M. Maylahn. (2009). Evidence-Based public Health: a fundamental concept for public health practice. Annu. Rev. Public Health, 175–201.
5. Communication at the core of effective public health. American Journal of Public Health, 94(12), 2051.
6. Parvanta, C. F., Nelson, D. E., & Jones & Bartlett Learning. (2011). Essentials of public health communication (Annenberg School of Communication, University of Pennsylvania & R. N. Harner, Eds.). Jones & Bartlett Learning.

PRINCIPLES OF RESEARCH METHODS

Code: 26PH302
Max. Marks:

Course Objectives: This course aims to provide grounding in research philosophy, study design (observational and experimental), sampling, measurement and instrument development; teach the basics of data management, descriptive and inferential statistics, and interpretation of results; instruct on bias, confounding and causal inference, ethical conduct of research, and clear scientific communication to produce rigorous, reproducible public health evidence.

UNIT I: Fundamentals of Research Methodology **(08 Hrs)**

- Research methodology,
- Essential & Basic Elements of a Research Study,
- Types of Health Research
- Significance of Research in Social Sciences and Public Health.
- Characteristics of Research

UNIT II: Research Study Design **(08 Hrs)**

- Research Study Design.
- Strength and weakness of each study
- Cross-sectional survey designs,
- longitudinal surveys or cohorts,
- Comparison group survey designs
- Quasi & true experiments,
- Normative & case-control design

UNIT III: The Research Process I **(08 Hrs)**

- The Research Process: Quick Glance
- Formulation of Research Study
    - Review of Literature
    - Formulating Research Problem
    - Identification of Variables
    - Hypothesis Construction
- Conceptualizing Research Design
- Construction of tool for data collection
- Concept of validity and reliability
- Sample selection
- Sampling techniques

UNIT IV: The Research Process II **(08 Hrs)**

- Writing a Research Proposal
- Ethical considerations in Research study
- Data Collection
- Analyzing the data
- Reporting the result
- Compilation and Results presentations.
- Communicating the results,
- Writing the report

UNIT V: Evaluation of Research Study **(08 Hrs)**

- Importance of Evaluation process
- Types of Evaluation Process
- Cost benefit/ cost effectiveness evaluation
- Undertaking Evaluation Process
- Ethics in Evaluation

Suggested Readings:

1. The Practice of Social Research; Earl Babbie, 13th edition
2. University of Guelph. (2004). PLAGIARISM AND ACADEMIC INTEGRITY. In Learning Commons Fastfacts Series.
3. What Is Qualitative Health Research; Norman K Denzin; Yvonna S Lincoln; Sage Publications; 2011
4. Beyond qualitative and quantitative: Qualitative and quantitative methods in evaluation research; Sage Publications; 1979; Chapter 24
5. The meanings of Methodology Newman_w.l
6. Choi, B. C. K., K. & Hindawi Publishing Corporation. (2012). The past, present, and future of public health surveillance. Scientifica, 2012, 26.
7. Omair, A. (2014). Sample size estimation and sampling techniques for selecting a representative sample. Deleted Journal, 2(4), 142.

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ENVIRONMENT AND OCCUPATIONAL HEALTH

Code: 26PH311
Max. Marks:

Course Objectives: This course aims to explain fundamental principles linking environment and work to population health, including exposure pathways, dose–response relationships, and vulnerable populations; teach identification, assessment and monitoring of environmental and occupational hazards (air, water, soil, chemical, biological, physical); present prevention and control strategies, regulatory frameworks, and risk communication; and develop skills to design interventions and policies that reduce exposures and protect health at community and workplace levels.

UNIT I: Environmental Health – Overview **(08 Hrs)**

- Environmental health burden and certain concepts
- Historical background into environmental health
- Core areas in environmental health
- Understand environment
- Ecosystem concepts, Bio-diversity, Niches, Zoonoses and its importance
- Climate Change and Health
- Pollution and its impact

UNIT II: Occupational Health: An Overview **(08 Hrs)**

- Hazards at workplace
- Work safety
- Prevention of occupational hazards
- Laws related to occupational health
- Lifestyle and dietary effects on health, food safety and sanitation
- Various government and other schemes for working population in India

UNIT III: Management of Environmental and Occupational Hazards **(08 Hrs)**

- Environmental pollution, waste disposal and treatment
- Problems in developing countries and the health impact
- Strategies for ensuring environmental sanitation in slums and rural areas
- Biomedical waste Management
- Disposal mechanisms Hazards at workplace
- Occupational safety
- Environmental health impact assessment

UNIT IV: Environment Health Policy and Guidelines **(08 Hrs)**

- Legal Mechanisms in National context
- Legal Mechanisms in International context
- Laws and Regulations related to Environmental and Occupational health
- Central Pollution Control Board (CPCB) guidelines
- Role of Public Health in determining Environmental health policy

UNIT V: Emergency and Disaster Management **(08 Hrs)**

- What is a Disaster?
- Impact of Disaster
- Classification of Disasters

- Phases of Disaster Management
- Mitigation
- Preparedness
- Response
- Recover
- Disaster Action Plan
- Disaster Management Act 2005
- Emergency management in specific conditions: Floods, Earthquakes, Fire

Suggested Readings:

1. Converging Paradigms for Environmental Health Theory and Practice Margot Parkes, Ruth Panelli, and Philip Weinstein
2. Berridge, Virginia & Gorsky, Martin. (2011). Introduction: Environment, health and history. Environment, Health and History. 1-22. 10.1057/9780230347557.
3. Unit-3 Environment Health; IGNOU
4. Parliament of India. (1986). THE ENVIRONMENT (PROTECTION) ACT, 1986. In THE ENVIRONMENT (PROTECTION) ACT, 1986 (pp. 267–270).
5. Salmond, J. A., Tadaki, M., Vardoulakis, S., Arbuthnott, K., Coutts, A., Demuzere, M., Dirks, K. N., Heaviside, C., Lim, S., Macintyre, H., McInnes, R. N., & Wheeler, B. W. (2016). Health and climate related ecosystem services provided by street trees in the urban environment. Environmental Health, 15(S1).
6. Campbell-Lendrum, D., Neville, T., Schweizer, C. et al. Climate change and health: three grand challenges. Nat Med 29, 1631–1638 (2023).
7. Kotcher, J., Maibach, E., Miller, J., Campbell, E., Alqodmani, L., Maiero, M., Wyns, A., Center for Climate Change Communication, George Mason University, Fairfax, VA, USA, The Global Climate & Health Alliance, Berkeley, CA, USA, World Medical Association, Ferney-Voltaire, France, & Department of Public Health, Environmental and Social Determinants of Health, World Health Organization, Geneva, Switzerland. (2021). Views of health professionals on climate change and health: a multinational survey study. The Lancet Planetary Health, 5, e316–e323.
8. Pires, S. M., Thomsen, S. T., Nauta, M., Poulsen, M., & Jakobsen, L. S. (2020). Food safety implications of transitions toward sustainable healthy diets. Food and Nutrition Bulletin, 41(2_suppl), 104S-124S.
9. Saha, R. K. (2018). Occupational health in India. Annals of Global Health, 84(3), 330–333.
10. Datta P, Mohi GK, Chander J. Biomedical waste management in India: Critical appraisal. J Lab Physicians 2018;10:6-14.
11. Gupta, P. P., Bankar, N. J., Mishra, V. H., Sanghavi, S., & Badge, A. K. (2023). The Efficient Disposal of Biomedical Waste Is Critical to Public Health: Insights from the Central Pollution Control Board Guidelines in India. Cureus.
12. Briggs, D. J. (2008). A framework for integrated environmental health impact assessment of systemic risks. Environmental Health, 7(1).

SEMINAR/CONFERENCE PRESENTATION

Code: 26PR102
Max Marks: 70

OBJECTIVE
To provide MPH students a structured platform to explore recent innovations in public health and health technology, learn from current developments in the field, and present evidence-based findings in front of a panel. The seminar should encourage critical thinking, academic writing, and professional presentation skills while connecting new technologies to public health practice.

The seminars/presentations may be organised once every 15 days or at monthly intervals, with at least 3–4 sessions during the semester. Each student should prepare a seminar topic related to MPH and public health innovation, such as health informatics, digital health, telemedicine, AI in healthcare, data analytics, cloud-based health systems, or emerging technologies in disease surveillance and health promotion.

The presentation should contain 7–8 slides, including a title slide, an introduction slide, content slides on the topic, application areas, public health relevance, and final references slide listing all books, articles, papers, and web links used. Prior approval should be obtained before finalising the topic so that the seminar remains relevant to the MPH curriculum and aligned with public health priorities.

After each seminar, student feedback should be collected through a Google Form or similar feedback tool to assess learning gained, clarity of presentation, usefulness of the topic, and overall engagement. The feedback may also help improve future seminars and presentations by capturing audience response and student reflections.

LAW AND ETHICS IN PUBLIC HEALTH

Code: 26PH321
Max. Marks:

Course Objectives: This course aims to introduce legal foundations and regulatory instruments governing public health practice, including statutory powers, human rights, and health policy processes; examine core ethical principles (autonomy, beneficence, justice, privacy) and their application to public health interventions, surveillance, and emergency responses; equip students to navigate conflicts between individual rights and collective welfare, apply ethical frameworks to program decisions, and ensure lawful, equitable, and accountable public health practice.

UNIT I: Public Health Laws: An Overview **(08 Hrs)**

- Historical perspective
- Characteristics of Public Health Laws
- Need of Public Health Laws
- Human Rights in Public Health
- Impact of violation of human rights on health.
- Role of National/International agencies in protection of human rights.

UNIT II: Public Health Ethics: An Overview **(08 Hrs)**

- History of medical ethics and bioethics.
- Public Health Ethics
- Comparison of Ethics in medical care and Public Health,
- Health fascism, Health imperialism, Paternalism, Health commercialism,
- Ethics in Public Health Research
- Public health information and privacy

UNIT III: Public Health Laws and Regulations: Indian and Global Context **(08 Hrs)**

- Historical perspective
- Public Health Regulations in India
- Importance of these regulations
- Impact of these regulations on public health practice
- Public Health Laws in developed nations
- Public Health Laws in developing nations
- Role of these Laws in improving and propagating public health

UNIT IV: Regulations during emergencies and outbreaks **(08 Hrs)**

- Epidemic Diseases Act, 1897
- Epidemic Disease Act, 2020
- Disaster Management Act, 2005
- Role of all levels of governance in emergencies and outbreaks

UNIT V: Global Health Hazard and Safety **(08 Hrs)**

- Gender Equity and Equality
- Role of gender in determining public health policies
- Bioterrorism
- Conflicts and emerging infectious diseases

Suggested Readings:

1. Pereira, P., & Bairy, K. (2012). Accreditation of human research protection program: An Indian perspective. Perspectives in Clinical Research, 3(2), 80.
2. 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.
3. Lakshminarayanan, S. (2011). Role of government in public health: Current scenario in India and future scope. Journal of Family and Community Medicine, 18(1), 26.
4. Myers, J., Frieden, T. R., Bherwani, K. M., & Henning, K. J. (2008). Ethics in public health research. American Journal of Public Health, 98(5), 793–801.
5. Widjaja, G. (2024). Legal aspects in handling outbreaks and pandemics. In The International Tax Journal, The International Tax Journal (Vol. 51, Issue 6, pp. 223–230).
6. Arthur, R. R., Leduc, J. W., & Hughes, J. M. (2003). Surveillance for emerging infectious diseases and bioterrorism threats. In Elsevier.
7. Gill Walt, Jeremy Shiffman, Helen Schneider, Susan F Murray, Ruairi Brugha, Lucy Gilson, 'Doing' health policy analysis: methodological and conceptual reflections and challenges, Health Policy and Planning, Volume 23, Issue 5, September 2008
8. Kluge, H., Martín-Moreno, J. M., Emiroglu, N., Rodier, G., Kelley, E., Vujnovic, M., & Permanand, G. (2018). Strengthening global health security by embedding the International Health Regulations requirements into national health systems. BMJ Global Health, 3(Suppl 1), e000656.
9. Liverani, M., Hawkins, B., & Parkhurst, J. O. (2013). Political and institutional influences on the use of evidence in public health policy. A systematic review. PLoS ONE, 8(10), e77404.

ARYAVART INTERNATIONAL UNIVERSITY
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INDIAN KNOWLEDGE SYSTEM

Code: 26GN301
Max Marks: 70

Course Objective: This course aims to provide participants with a comprehensive understanding of India's rich and diverse knowledge traditions, encompassing philosophy, literature, sciences, arts, and sustainable practices. Through the exploration of traditional wisdom and its contemporary relevance, this course seeks to foster appreciation, preservation, and responsible utilization of the Indian Knowledge System.

UNIT I: Introduction to Indian Knowledge System (IKS) (02 Hrs)
Definition, Concept and Scope of IKS, Definition, Concept and Scope of IKS, IKS based approaches on Knowledge Paradigms, IKS in ancient India and in modern India

UNIT II: IKS and Indian Scholars (07 Hrs)
Indian Literature Philosophy and Literature (Maharishi Vyas, Manu, Kanad, Pingala, Parasar, Banabhatta, Nagarjuna and Panini), Mathematics and Astronomy (Aryabhatta, Mahaviracharya, Bodhayan, Bhashkaracharya, Varahamihira and Brahmgupta), Medicine and Yoga (Charak, Susruta, Maharishi Patanjali and Dhanwantri), Sahitya (Vedas, Upvedas, Upavedas (Ayurveda, Dhanurveda, Gandharvaveda), Puran and Upnishad) and shad darshan (Vedanta, Nyaya. Vaisheshik, Sankhya, Mimamsa, Yoga, Adhyatma and Meditation), Shastra (Nyaya, vyakarana, Krishi, Shilp, Vastu, Natya and Sangeet)

UNIT III: Indian Traditional/tribal/ethnic communities, their livelihood and local wisdom (02 Hrs)
Geophysical aspects; Resources and Vulnerability; Resource availability, utilisation patterns, and limitations; Socio-Cultural linkages with the Traditional Knowledge System; Tangible and intangible cultural heritage.

UNIT IV: Unique Traditional Practices and Applied Traditional Knowledge (07 Hrs)
Myths, Rituals, Spirituals, Taboos and Belief System, Folk Stories, Songs, Proverbs, Dance, Play, Acts and Traditional Narratives, Agriculture, animal husbandry, Forest, Sacred Groves, Water Mills, Sacred Water Bodies, Land, water and Soil Conservation and management Practices, Indigenous Bio-resource Conservation, Utilization Practices and Food Preservation Methods, Handicrafts, Wood Processing and Carving, -Fiber Extraction and Costumes, Vaidya (traditional health care system), Tantra-Mantra, Amchi Medicine System, Knowledge of dyeing, chemistry of dyes, pigments and chemicals

UNIT V: Protection, preservation, conservation and Management of Indian Knowledge System (02 Hrs)
Documentation and Preservation of IKS, Approaches for conservation and Management of nature and bioresources, Approaches and strategies to protection and conservation of IKS

Suggested Readings:

1. "Introduction To Indian Knowledge System: Concepts and Applications" by B. Mahadevan, Nagendra Pavana, Vinayak Rajat Bhat
2. "Traditional Knowledge System in India" by Amit Jha

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HUMAN VALUES AND ETHICS

Code: 26GN302
Max Marks: 70

Course Objectives: The course aims to develop ethical reasoning and awareness of human values, promoting responsible behaviour in personal, professional, and societal contexts.

UNIT I: Introduction to human values **(05 Hrs)**

- Understanding the need, Basic guidelines, Process of Value Education.
- Understanding the thought-provoking issues- Continuous happiness and Prosperity.
- Right understanding- relationship and physical facilities, Choice making- choosing, Cherishing and Acting.
- Understanding values- Personal Values, Social values, Moral values and Spiritual values, Self-Exploration and Awareness leading to Self-Satisfaction; Tools for Self-Exploration.

UNIT II: Harmony and role of values in family, society and human relations **(05 Hrs)**

- Understanding harmony in the Family- the basic unit of human interaction; Understanding values in human-human relationships; Understanding harmony in society-human relations.
- Interconnectedness and mutual fulfilment; Coexistence in nature.
- Holistic perception of harmony at all levels of existence, universal harmonious order in society.
- Visualising a universal harmonium order in society- undivided society (Akhand Samaj), universal order (Sarvabhaum Vyawastha)- from family to world family.

UNIT III: Coexistence and role of Indian Ethos **(05 Hrs)**

- Interconnectedness and mutual fulfilment among the four orders of nature: recyclability and self-regulation in nature.
- Ethos of Vedanta; Application of Indian Ethos in organisations in management; Relevance of Ethics and Values in organisations in current times.

UNIT IV: Professional ethics **(05 Hrs)**

- Understanding about Professional Integrity, respect and equality, Privacy, Building Trusting relationships, Co-operation, and Respecting the competence of other professions.
- Understanding about taking initiative, Promoting the culture of openness, and Demonstrating loyalty towards goals and objectives.
- Ethics at the workplace: - cybercrime, plagiarism, sexual misconduct, fraudulent use of institutional resources, etc.
- Ability to utilise professional competence for augmenting the universal human order.

Text Books:

1. A Textbook on Professional Ethics and Human Values by R S Naagarazan.
2. A Foundation Course in Human Values and Professional Ethics by R.R. Gaur, R. Sangal, G.P. Bagaria.
3. Indian Ethos and Modern Management by B L Bajpai, New Royal Book Co., Lucknow, 2004, Reprinted 2008.

Suggested Readings:

1. A N Tripathy, 2003, Human Values, New Age International Publishers
2. Human Values and Professional Ethics by Vaishali R Khosla, Kavita Bhagat
3. I.C. Sharma. Ethical Philosophy of India, Nagin & Co., Julundhar

MPH

4th Semester

ARYAVART INTERNATIONAL UNIVERSITY
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Detailed Syllabus

ADVANCED BIOSTATISTICS

Code: 26PH411
Max. Marks:

Course Objectives: This course aims to develop advanced knowledge and practical skills in biostatistical methods for analyzing public health data, interpreting research findings, and supporting evidence-based decision-making in health research and practice.

UNIT I: Introduction to Advanced Biostatistics **(08 Hrs)**

- Types of data
- Measures of central tendency
- Sampling techniques
- Hypothesis and its testing
- Types of Errors
- Sample size calculations

UNIT II: Correlation and Regression I **(08 Hrs)**

- Correlation
- Correlation coefficient
- Regression
- Principles of Regression
- Types of Regression
- Methods of Regression

UNIT III: Correlation and Regression II **(08 Hrs)**

- Linear regression
- Logistic regression
- Poisson regression
- Cox proportional hazards regression

UNIT IV: Survival Analysis **(08 Hrs)**

- Survival Analysis
- Types of Censoring
- Functions of Survival time
- Survival function
- Probability density function
- Hazard function
- Kaplan-Meier survival curve

UNIT V: Parametric and Non-Parametric Tests **(08 Hrs)**

- Non-Parametric test
- One sample: Wilcoxon signed rank test
- Two sample:
    - Independent sample: Mann Whitney U test
    - Paired sample: Wilcoxon matched pair signed rank test
- More than two sample
- Independent sample: Kruskal Wallis test
- Concept of Relative Risk & Odds Ratio

- Computation and interpretation of Relative risk and Odds ratio

Suggested Readings:

1. Mahajan's Methods in Biostatistics for Medical Students and Research Workers; Eighth Edition; Arun Bhadra, Khanal Mahajan; JAYPEE; 2016
2. T.D.V. Swinscow, Statistics at Square One, 9th Edition, Revised by M.J. Campbell, University of Southampton, UK
3. Naing NN. Easy way to learn standardization: direct and indirect methods. Malays J Med Sci. 2000 Jan;7(1):10-5. PMID: 22844209; PMCID: PMC3406211.
4. Biostatistics for Dummies by John C. Pezzullo, PhD; John Wiley & Sons, Inc.; 2013
5. Basic Tools of Research: Sampling, Measurement, Distributions, and Descriptive Statistics; Part 2
6. Principles of Biostatistics; Marcello Pagano, Kimberlee Gauvreau; Harvard Medical School; 2000; Duxbury by Brooks/Cole

ADVANCED EPIDEMIOLOGY

Code: 26PH412
Max. Marks:

Course Objectives: This course aims to equip learners with advanced epidemiological concepts and analytical approaches for investigating disease patterns, identifying determinants of health, and evaluating interventions to improve population health.

UNIT I: Advanced Epidemiology: Introduction **(08 Hrs)**

- Models: Causal Criteria
- Potential Outcomes Model
- Directed Acyclic Graphs and Conceptual Framework

UNIT II: Bias Analysis **(08 Hrs)**

- Quantitative Bias Analysis
- Selection Bias
- Confounding Bias and Methods to Reduce Confounding
- Information Bias Analysis
- Probabilistic Bias Analysis
- Multiple Bias Analysis

UNIT III: Study Design **(08 Hrs)**

- Nested Study Designs
- Advanced Designs in Clinical Trials
- Systematic Reviews
- Meta-analysis Overview

UNIT IV: Special Epidemiology **(08 Hrs)**

- Vector-Borne Diseases
- Nutritional Epidemiology
- Infectious Disease Epidemiology
- Environmental Epidemiology

UNIT V: Outbreaks Investigations **(08 Hrs)**

- Following Disaster
- Live Outbreak Investigation
- Surveillance

- Public Data Sources: CRS, SRS, Census, NFHS, DLHS, HMIS etc.

Suggested Readings:

1. Kuller LH. Epidemiology: Then and Now. Am J Epidemiol. 2016 Mar 1;183(5):372-80. doi: 10.1093/aje/kwv158. Epub 2015 Oct 21. PMID: 26493266.
2. k. park-park's textbook of preventive and social medicine 23rd Edition 2005
3. Pearce N. Traditional epidemiology, modern epidemiology, and public health. Am J Public Health. 1996 May;86(5):678-83. doi: 10.2105/ajph.86.5.678. PMID: 8629719; PMCID: PMC1380476.
4. Essential Epidemiology: An Introduction for Students and Health Professionals by Penny Webb and Chris Bain

SURVEY DESIGN & METHODS

Code: 26PH413
Max. Marks:

Course Objectives: This course aims to provide knowledge and skills in designing, implementing, and analyzing public health surveys using appropriate sampling techniques, data collection methods, and quality assurance procedures.

UNIT I: Foundations of Survey Research **(10 Hrs)**
Pre-survey formative research: concept, purpose, and methods; identifying research problems and framing research questions; selecting appropriate research designs for a range of health-related questions; overview of quantitative, qualitative, and mixed-method approaches.

UNIT II: Sampling and Tool Development **(10 Hrs)**
Sampling methods and sample size calculations; principles of questionnaire and tool development; structure, wording, sequencing, and pre-testing of instruments; validity and reliability of data collection tools; pilot testing and revision of survey tools.

UNIT III: Conduct of Surveys and Ethics **(10 Hrs)**
Ethical issues in surveys, including informed consent, confidentiality, privacy, and protection of participants; planning and conducting surveys in community and institutional settings; field procedures, supervision, and respondent management; quality control and quality assurance in survey implementation.

UNIT IV: Data Analysis and Research Project Planning **(10 Hrs)**
Survey data analysis: data coding, editing, cleaning, tabulation, interpretation, and basic statistical analysis; steps involved in planning and conducting a research project; strengths and weaknesses of various data collection methods; reporting and presentation of research findings.

Suggested Readings:

1. Formative Research Guidance Introducing Multiple Micronutrient Supplements (MMS), UNICEF 2022
2. Das S, Mitra K, Mandal M. Sample size calculation: Basic principles. Indian J Anaesth. 2016 Sep;60(9)
3. Sirwan Khalid Ahmed: How to choose a sampling technique and determine sample size for research: A simplified guide for researchers, Oral Oncology Reports, Volume 12, 2024
4. Ethical Surveys: A guide to Responsible research. (n.d.). Survey Sparrow. https://surveysparrow.com/blog/ethical-surveys/
5. Adley, M., Alderson, H., Jackson, K., McGovern, W., Spencer, L., Addison, M., & O'Donnell, A. (2023). Ethical and practical considerations for including marginalised groups in quantitative survey research. International Journal of Social Research Methodology, 27(5), 559–574.
6. Quality Assurance and Quality Control in Surveys_Harvard; Lars Larys

7. Petcu C, Boukhelif I, Davis V, Shamsi H, Al-Assi M, Miladi A, Khaled SM. Design and Implementation of Survey Quality Control System for Qatar's First National Mental Health Survey: Case Study. JMIR Form Res. 2023 Nov 27
8. Ponto J. Understanding and Evaluating Survey Research. J Adv Pract Oncol. 2015 Mar-Apr;6(2):168-71
9. Taherdoost, H. (2021). Data collection Methods and Tools for Research; A Step-by-Step Guide to choose data collection technique for academic and business research projects. In International Journal of Academic Research in Management (IJARM)

COMMUNICABLE DISEASE EPIDEMIOLOGY

Code: 26PH414
Max. Marks:

Course Objectives: This course aims to develop an understanding of the epidemiology, surveillance, prevention, and control of infectious diseases, with emphasis on outbreak investigation and public health response.

UNIT I: Burden and Determinants of Communicable Diseases (10 Hrs)
Burden of communicable diseases in the population; factors contributing to the persistence of infectious diseases; causes of emergence and re-emergence of infectious diseases; overview of major public health challenges posed by communicable diseases.

UNIT II: Core Concepts in Infectious Disease Epidemiology (10 Hrs)
Incubation period, epidemic patterns, modes of transmission, transmission dynamics, measures of infectiousness, and secondary attack rate; application of these concepts in understanding disease spread and prevention.

UNIT III: Surveillance and Disease Control (10 Hrs)
Surveillance systems with special reference to the Integrated Disease Surveillance Program (IDSP); analysis of transmission dynamics for designing appropriate control measures; basic epidemiological skills for addressing emerging and re-emerging communicable diseases.

UNIT IV: Epidemiology of Major Diseases and Field Investigation (10 Hrs)
Epidemiology of common communicable diseases such as TB, malaria, leprosy, polio, STIs, AIDS, meningococcal meningitis, hepatitis B, and measles; mathematical models of infection dynamics; outbreak investigation and surveillance; immunization schedules, adverse reactions, contraindications, vaccine efficacy, and impact assessment; live outbreak investigation and AEFI investigation.

Suggested Readings:

1. Cassini A, Colzani E, Pini A, Mangen MJ, Plass D, McDonald SA, Maringhini G, van Lier A, Haagsma JA, Havelaar AH, Kramarz P, Kretzschmar ME; BCoDE consortium. Impact of infectious diseases on population health using incidence-based disability-adjusted life years (DALYs): results from the Burden of Communicable Diseases in Europe study, European Union and European Economic Area countries, 2009 to 2013. Euro Surveill. 2018 Apr;23(16):17-00454.
2. Upadhyay RP. An overview of the burden of non-communicable diseases in India. Iran J Public Health. 2012;41(3):1-8. Epub 2012 Mar 31. PMID: 23113144; PMCID: PMC3481705.
3. Epidemiology and Economic Burden of Continuing Challenge of Infectious Diseases in India: Analysis of Socio-Demographic Differentials; Ram Bhed, Thakur Ramna; Frontiers in Public Health; 2022
4. Webber, R. (2005). Communicable Disease Epidemiology and Control: A Global perspective (2nd Edition).
5. Elsevier Inc. (2014). The new public health [Learning Objectives]. https://doi.org/10.1016/B978-0-12-415766-8.00004-5

6. Raut, D. K., & Bhola, A. K. (2014). Integrated Disease surveillance in India: Way forward. GLOBAL JOURNAL OF MEDICINE AND PUBLIC HEALTH, 4–4, 1–3. https://www.researchgate.net/publication/387854928
7. Govindakarnavar Arunkumar, Radhakrishnan Chandni, Devendra T Mourya, Sujeet K Singh, Rajeev Sadanandan, Preeti Sudan, Balram Bhargava, Nipah Investigators People and Health Study Group , Outbreak Investigation of Nipah Virus Disease in Kerala, India, 2018, The Journal of Infectious Diseases, Volume 219, Issue 12, 15 June 2019, Pages 1867–1878
8. Joshi, J., Das, M.K., Polpakara, D. et al. Vaccine Safety and Surveillance for Adverse Events Following Immunization (AEFI) in India. Indian J Pediatr 85, 139–148 (2018).

NON-COMMUNICABLE DISEASE EPIDEMIOLOGY

Code: 26PH415
Max. Marks:

Course Objectives: This course aims to enable learners to analyze the epidemiology of non-communicable diseases, identify major risk factors, and apply evidence-based strategies for prevention, control, and health promotion.

UNIT I: Epidemiology of Non-Communicable Diseases (10 Hrs)
Epidemiology of major non-communicable diseases, including cardiovascular diseases, hypertension, diabetes mellitus, cancers, mental health disorders, stroke, burns, trauma, accidents, and other related conditions; patterns, trends, and public health significance of NCDs.

UNIT II: Determinants and Risk Factors (10 Hrs)
Upstream and downstream determinants of NCDs; individual or high-risk approaches and population-based or public health approaches for prevention; risk factor approach to NCD prevention; population-based prevention of common risk factors such as physical inactivity, tobacco use, and unhealthy diet.

UNIT III: Prevention, Screening, and Surveillance (10 Hrs)
Current projects and innovations in NCD prevention; interlinkages between NCDs and communicable diseases; links between NCD prevention and women's health, child health, and the health of the girl child; population-based screening; surveillance of cancers, including cancer registry systems.

UNIT IV: Policy, Environment, and Economic Aspects (10 Hrs)
Economic burden of NCDs and benefits of prevention; relationship between sustainable development and NCD prevention; role of policy and environment in NCD control; strategies for creating supportive environments and strengthening preventive public health action.

Suggested Readings:

1. Jørn Olsen, Roberto Bertollini, Cesar Victora, Rodolfo Saracci, Global response to non-communicable diseases—the role of epidemiologists, International Journal of Epidemiology, Volume 41, Issue 5, October 2012, Pages 1219–1220
2. Yadav, A. K., Paltasingh, K. R., & Jena, P. K. (2020). Incidence of Communicable and Non-communicable Diseases in India: Trends, Distributional Pattern and Determinants. The Indian Economic Journal, 68(4), 593-609
3. Nethan S, Sinha D, Mehrotra R. Non Communicable Disease Risk Factors and their Trends in India. Asian Pac J Cancer Prev. 2017 Jul 27;18(7):2005-2010. doi: 10.22034/APJCP.2017.18.7.2005. PMID: 28749643; PMCID: PMC5648412.
4. Rajeev Gupta, Denis Xavier, Hypertension: The most important non communicable disease risk factor in India, Indian Heart Journal, Volume 70, Issue 4, 2018, Pages 565-572, ISSN 0019-4832

5. Leanne Riley, Regina Guthold, Melanie Cowan, Stefan Savin, Lubna Bhatti, Timothy Armstrong, Ruth Bonita, "The World Health Organization STEPwise Approach to Noncommunicable Disease Risk-Factor Surveillance: Methods, Challenges, and Opportunities", American Journal of Public Health 106, no. 1 (January 1, 2016): pp. 74-78.
6. Geetha R. Menon, Jeetendra Yadav, Denny John: Burden of non-communicable diseases and its associated economic costs in India, Social Sciences & Humanities Open, Volume 5, Issue 1, 2022, 100256, ISSN 2590-2911
7. Mohanty S, Venkatarao E, Yasobant S. Non- communicable disease care and physical activity promotion in India: analysis of recent policies, guidelines and workplans. Fam Med Com Health 2020;8:e000206. doi:10.1136/ fmch-2019-000206
8. Christe, D. M., Vijaya, S., & Tharangini, K. (2020). Screening for non-communicable diseases. International Journal of Reproduction Contraception Obstetrics and Gynecology, 9(3), 1092. https://doi.org/10.18203/2320-1770.ijrcog20200881
9. Mishra, U. S., Sebastian, I. R., Joe, W., & Mehdi, A. (2016). Surveillance of chronic diseases: Challenges and strategies for India. https://www.econstor.eu/handle/10419/176349

HEALTH POLICY, PROCESS AND PLANNING

Code: 26PH421
Max. Marks:

Course Objectives: This course aims to develop an understanding of health policy formulation, planning processes, and health systems for effective decision-making and strengthening public health services.

UNIT I: Fundamentals of Policy Making **(10 Hrs)**
Policy making: meaning, key components, and process; policy framework and stages of policy development; short-term and long-term policies; role of evidence, goals, and priorities in policy formulation.

UNIT II: Stakeholders and Policy Influence **(10 Hrs)**
Stakeholders in policy making; roles of government, institutions, professionals, civil society, and communities; effects of different interest groups and advocacy groups in influencing health policy; power, negotiation, and decision-making in the policy process.

UNIT III: Evidence and Policy Translation **(10 Hrs)**
Translating research into policy making; using research and data to drive good policy decisions; assessment of policy alternatives; relationship between health indicators, program data, and policy choices; role of monitoring and evaluation in policy revision.

UNIT IV: Health Policy Context and Resource Allocation **(10 Hrs)**
Effects of national and international affairs on health policy; introduction to national population, disease control, tobacco control, nutrition, and maternal and child health policies; resource allocation to optimise health outcomes; policy implementation, equity, and sustainability in health systems.

Suggested Readings:

1. Roemer, Milton (1977); Comparative National policies on Health care, New York; Marcel Dekker Inc; Chapter 1
2. GILL WALT, LUCY GILSON, Reforming the health sector in developing countries: the central role of policy analysis, Health Policy and Planning, Volume 9, Issue 4, December 1994, Pages 353–370
3. Burau, Viola and Blank, Robert H. (2006) 'Comparing health policy: An assessment of typologies of health systems', Journal of Comparative Policy Analysis: Research and Practice, 8: 1, 63 — 76
4. Bomhof-Roordink H, Gärtner FR, Stiggelbout AM, et alKey components of shared decision-making models: a systematic review BMJ Open 2019;9:e031763. doi: 10.1136/bmjopen-2019-031763

5. Kilbourne AM, Garrido MM, Brown AF. Translating research into policy and action. Health Serv Res. 2022 Jun;57 Suppl 1(Suppl 1):5-8. doi: 10.1111/1475-6773.13980. Epub 2022 Apr 27. PMID: 35362119; PMCID: PMC9108221.
6. The complexity of resource allocation for health; Dieleman, Joseph L et al.; The Lancet Global Health, Volume 3, Issue 1, e8 - e9
7. Anne Veenstra, Bas Kotterink. Data-Driven Policy Making: The Policy Lab Approach. 9th International Conference on Electronic Participation (ePart), Sep 2017, St. Petersburg, Russia.

DESIGN AND EVALUATION OF PUBLIC HEALTH PROGRAMMES (INCLUDING CURRENT NHPS)

Code: 26PH422
Max. Marks:

Course Objectives: This course aims to provide competencies in planning, implementing, monitoring, and evaluating public health programmes, with emphasis on national health programmes and their impact on population health.

UNIT I: Concepts of Health Program Design (10 Hrs)
Concepts underlying the design of health programmes; principles of planning, goal setting, and priority setting; logical framework and theory-based approaches in programme design; introduction to programme development in public health.

UNIT II: Program Design in Low-Resource Settings (10 Hrs)
Basic approaches to designing health programmes with emphasis on low-resource settings; needs assessment, feasibility, community participation, equity, and sustainability; adaptation of programme strategies to local health system capacities and population needs.

UNIT III: Analysis, Interpretation, and Communication (10 Hrs)
Analysis and interpretation of studies and health programmes; basic methods for assessing programme performance; communication in conducting public health research; reporting findings, stakeholder communication, and presentation of results.

UNIT IV: National Health Programmes in India (10 Hrs)
National health programmes in India: goals, objectives, purpose, organization, manpower, sources, activities, roles, and responsibilities; overview of implementation structure and linkages with public health services at different levels.

Suggested Readings:

1. The concept of mechanism from a realist approach; Lacouture et al. Implementation Science (2015) 10:153 DOI 10.1186/s13012-015-0345-7
2. Brownson, R. C., Fielding, J. E., & Maylahn, C. M. (2009). Evidence-Based public Health: a fundamental concept for public health practice. Annual Review of Public Health, 30(1)
3. Ramaswamy, R., Shidhaye, R. & Nanda, S. Making complex interventions work in low resource settings: developing and applying a design focused implementation approach to deliver mental health through primary care in India. Int J Ment Health Syst 12, 5 (2018)
4. Aranda Jan, C., Jagtap, S., & Moultrie, J. (2016). Towards A Framework for Holistic Contextual Design for Low-Resource Settings. https://doi.org/10.17863/CAM.7254
5. J P Habicht, C G Victora, J P Vaughan, Evaluation designs for adequacy, plausibility and probability of public health programme performance and impact., International Journal of Epidemiology, Volume 28, Issue 1, Feb 1999, Pages 10–18
6. Akash Sagar, Himanshi Arora & Meerambika Mahapatro (2024). Evaluation of National Health Programmes of India: An Analysis, Journal of South Asian Research, 2: 2, pp. 177-185

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TRANSLATING RESEARCH FOR HEALTH POLICY AND ADVOCACY

Code: 26PH423
Max. Marks:

Course Objectives: This course aims to develop the ability to translate research evidence into health policies, advocacy strategies, and informed public health decision-making.

UNIT I: Power and Policy Making **(10 Hrs)**
Different forms of power and their influence on policy making; actors, authority, and decision-making in the policy process; political and institutional factors that shape health policy outcomes.

UNIT II: Governance and Institutions **(10 Hrs)**
Concepts of governance and institutions; roles of formal and informal institutions in health systems; accountability, transparency, participation, and regulatory frameworks in governance.

UNIT III: Theories and Evidence in Policy **(10 Hrs)**
Different theories useful in policy analysis; political nature of evidence for policy making in health; use of research evidence, stakeholder interests, and context in shaping policy decisions; communicating evidence to inform policy through written and verbal competence.

UNIT IV: Critical Appraisal of Policy and Financing **(10 Hrs)**
Critical appraisal of issues in health policy and financing; analysis of financing mechanisms, equity, efficiency, and sustainability; evaluation of policy options and their implications for health systems and population outcomes.

Suggested Readings:

1. Radhika Gore & Richard Parker (2019) Analysing power and politics in health policies and systems, Global Public Health
2. Lee, K., Kamradt-Scott, A. The multiple meanings of global health governance: a call for conceptual clarity. Global Health 10, 28 (2014).
3. Gill Walt, Jeremy Shiffman, Helen Schneider, Susan F Murray, Ruairi Brugha, Lucy Gilson, 'Doing' health policy analysis: methodological and conceptual reflections and challenges, Health Policy and Planning, Volume 23, Issue 5, September 2008, Pages 308–317
4. Embrett, M. G., & Randall, G. (2014). Social determinants of health and health equity policy research: Exploring the use, misuse, and nonuse of policy analysis theory. Social Science & Medicine, 108, 147–155.
5. Liverani M, Hawkins B, Parkhurst JO (2013) Political and Institutional Influences on the Use of Evidence in Public Health Policy. A Systematic Review. PLoS ONE8(10):e77404.doi:10.1371/journal.pone.0077404
6. Kutzin, J. & World Health Organization. (2008). Health financing policy: a guide for decision-makers. In Health Financing Policy Paper [Article].

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CURRENT ISSUES IN HEALTH POLICY: NATIONAL AND GLOBAL PERSPECTIVE

Code: 26PH424
Max. Marks:

Course Objectives: This course aims to examine emerging national and global health policy issues and their implications for health systems, governance, and public health practice.

UNIT I: Theory of Public Health Action **(10 Hrs)**
Theory explaining public health action, its evolution, and application in health policy; historical development of public health action; conceptual foundations linking policy, practice, and population health.

UNIT II: Health Impact Assessment Methods **(10 Hrs)**
Methods of assessing the health impact of different types of policy from national and global perspectives; principles, steps, and tools used in health impact assessment; identification of direct and indirect health effects of policies.

UNIT III: Cross-Sector Policy Impacts **(10 Hrs)**
Assessing health impacts of policies across sectors such as education, transport, housing, environment, agriculture, and labor; intersectoral action for health; analysis of social, economic, and environmental determinants of health outcomes.

UNIT IV: Health Threats and Crisis Response **(10 Hrs)**
Impact of health threats and interventions to counter health threats, including crisis management; assessment of emergency preparedness, response strategies, mitigation measures, and the role of policy in protecting population health during crises.

Suggested Readings:

1. Frieden, T. R. (2010). A framework for public health action: the Health Impact Pyramid. American Journal of Public Health, 100(4), 590–595.
2. Cole, B. L., & Fielding, J. E. (2006). Health Impact Assessment: A tool to help policy makers understand health beyond health care. Annual Review of Public Health, 28(1), 393–412.
3. An assessment of interactions between global health initiatives and country health systems, The Lancet, Volume 373, Issue 9681, 2009, Pages 2137-2169, ISSN 0140-6736
4. Brownson RC, Seiler R, Eyler AA. Measuring the impact of public health policy. Prev Chronic Dis. 2010 Jul;7(4):A77. Epub 2010 Jun 15. PMID: 20550835; PMCID: PMC2901575.

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ROLE OF NON-GOVERNMENTAL ORGANIZATIONS IN HEALTH CARE

Code: 26PH425
Max. Marks:

Course Objectives: This course aims to understand the role of non-governmental organizations in health promotion, service delivery, community participation, and strengthening public health systems.

UNIT I: Health Service Delivery (10 Hrs)
Health service delivery and program implementation; organization of health services at different levels; principles of accessible, equitable, efficient, and quality care; components of effective program execution in public health settings.

UNIT II: Research and Evidence Generation (10 Hrs)
Research and evidence generation for health systems strengthening; use of data, surveillance, and evaluation to inform planning and implementation; role of research in identifying gaps, improving services, and supporting decision-making.

UNIT III: Training, Education, and Coordination (10 Hrs)
Training and education in health care; capacity building of health workforce; inter-sectoral coordination in health, including public-private partnership; collaboration among stakeholders for effective service delivery and program success.

UNIT IV: Advocacy and Health Planning (10 Hrs)
Advocacy and planning in health care; identifying priorities, setting objectives, and developing implementation strategies; use of advocacy to influence policy, mobilize resources, and strengthen health programs at community and system levels.

Suggested Readings:

1. Bajpai, N., Sachs, J. D., & Dholakia, R. H. (2009). Improving access, service delivery and efficiency of the public health system in rural India. Columbia University Libraries.
2. Sodani, Prahlad Rai; Sharma, Kalpa. Strengthening Primary Level Health Service Delivery: Lessons from a State in India. Journal of Family Medicine and Primary Care 1(2):p 127-131, Jul–Dec 2012.
3. Mathur, P., Srivastava, S., Lalchandani, A., & Mehta, J. L. (2017). Evolving role of telemedicine in health care delivery in India. Primary Health Care Open Access, 07(01).
4. Orton, L., Lloyd-Williams, F., Taylor-Robinson, D., O'Flaherty, M., & Capewell, S. (2011). The Use of research evidence in Public health decision making Processes: Systematic review. PLoS ONE, 6(7), e21704.
5. Heather Tallis, Katharine Kreis, Lydia Olander, Claudia Ringler; Aligning evidence generation and use across health, development, and environment, Current Opinion in Environmental Sustainability, Science Direct, Volume 39, 2019, Pages 81-93, ISSN 1877-3435,
6. Zodpey, S. P., Negandhi, H., & Yeravdekar, R. (2014). Future directions for public health education reforms in India. Frontiers in Public Health
7. Negandhi, Himanshu1; Sharma, Kavya2; Zodpey, Sanjay P.3,. History and Evolution of Public Health Education in India. Indian Journal of Public Health 56(1):p 12-16, Jan–Mar 2012
8. Singh, S., Miller, E. & Closser, S. Nurturing transformative local structures of multisectoral collaboration for primary health care: qualitative insights from select states in India. BMC Health Serv Res 24, 634 (2024).
9. Delisle, H., Hatcher Roberts, J., Munro, M., Jones, L., Gyorkos, T. W., & BioMed Central. (2005). The role of NGOs in global health research for development [Journal-article]. Health Research Policy and Systems. https://doi.org/10.1186/1478-4505-3-3

10. The World Bank. (n.d.). Does Involvement of Local NGOs Enhance Public Service Delivery? Cautionary Evidence from a Malaria-Prevention Evaluation in India. https://fid4sa-repository.ub.uni-heidelberg.de/3811/

STRATEGIC MANAGEMENT, INNOVATIONS AND ENTREPRENEURSHIP IN HEALTH CARE

Code: 26PH431
Max. Marks:

Course Objectives: This course aims to develop competencies in strategic management, innovation, and entrepreneurship for improving healthcare delivery and addressing public health challenges.

UNIT I: Strategy and Strategic Management **(10 Hrs)**
Strategy: various definitions; major concepts and frameworks in strategic management, including SWOT analysis, experience curve, portfolio theory, and value chain; strategic thinking and decision making in organisational contexts.

UNIT II: Strategic Planning and Sustainability **(10 Hrs)**
Strategic planning: environmental analysis, scenario planning, implementation, monitoring, and evaluation; sustainability in strategic management; aligning goals, resources, and long-term organisational development.

UNIT III: Entrepreneurship and Business Communication **(10 Hrs)**
Various sources of financing a new venture; identifying and finalising the target audience; preparing a business speech and elevator pitch; conflict management and negotiation skills in the business world.

UNIT IV: Innovation and Business Modelling in Public Health **(10 Hrs)**
Innovations in public health; health informatics and e-Health; telemedicine and m-Health; business modelling and preparing an individual business model; peer review of individual business models and refinement based on feedback.

Suggested Readings:

1. Kash, B. A., Spaulding, A., Gamm, L. D., & Johnson, C. E. (2014). Healthcare strategic management and the resource-based view. Journal of Strategy and Management, 7(3), 251–264.
2. Andrieiev, I., Trehub, D., Khatsko, K., Sokolovska, I., & Ganzhiy, I. (2024). Strategic management in healthcare: the impact of strategic decisions on achieving organisational goals and improving the quality of healthcare services. Multidisciplinary Science Journal, 6, 2024ss0217.
3. Flessa, S., & Huebner, C. (2021). Innovations in Health Care—A Conceptual Framework. International Journal of Environmental Research and Public Health, 18(19), 10026
4. Harrison, J. P. (2010). Essentials of strategic planning in healthcare. In Health Administration Press. SWOT Analysis
5. Fagefors, C., & Lantz, B. (2021). Application of Portfolio Theory to Healthcare Capacity Management. International Journal of Environmental Research and Public Health, 18(2), 659.
6. Imhoff, M., Webb, A., & Esicm, A. G. O. B. O. T. (2000). Health informatics. Intensive Care Medicine, 27(1), 179–186.
7. Wicks, P., Stamford, J., Grootenhuis, M. A., Haverman, L., & Ahmed, S. (2013). Innovations in e-health. Quality of Life Research, 23(1), 195–203.
8. Krupinski, E.A.; Weinstein, R.S. Telemedicine, Telehealth and m-Health: New Frontiers in Medical Practice. Healthcare 2014, 2, 250-252.

9. Qiu, Q., & Cameron, G. T. (2007). Public Relations Perspective to Manage Conflict in a Public Health Crisis, a. In Journal of Dispute Resolution (Vol. 2007, Issue 1, p. Article 15).
10. Angeli, F., & Jaiswal, A. K. (2016). Business Model Innovation for Inclusive Health Care Delivery at the Bottom of the Pyramid. Organisation & Environment, 29(4), 486-507.

ADVANCED OPERATIONAL RESEARCH

Code: 26PH432
Max. Marks:

Course Objectives: This course aims to equip learners with advanced operational research methods for improving programme performance, resource utilization, and evidence-informed decision-making in healthcare.

UNIT I: Introduction to Operations Research **(10 Hrs)**
History of operations research; meaning, scope, and importance of operations research in public health; overview of the seven stages of OR; role of OR in improving health systems and decision-making.

UNIT II: Problem Definition and System Observation **(10 Hrs)**
Stage 1: Formulate and define the organizational problem;
Stage 2: Observe the system; identification of constraints, objectives, and key variables; collection of relevant data for analysis.

UNIT III: Modeling and Solution Development **(10 Hrs)**
Stage 3: Create a mathematical model of the problem;
Stage 4: Model validation and application to the problem;
Stage 5: Identification of a suitable alternative; use of SAFE principles in designing public health interventions.

UNIT IV: Implementation, Field Trials, and Evaluation **(10 Hrs)**
Stage 6: Results discussion and conclusion;
Stage 7: Implementation and evaluation of the recommendation; field interventions and field trials; assessment of feasibility, acceptability, safety, and effectiveness of proposed solutions.

Suggested Readings:

1. Hillier, F. S., J., & Lieberman, G. J. (2010). Introduction to Operations research. McGraw-Hill. https://www.mhhe.com
2. Shetaban, S., Seyyed Esfahani, M. M., Saghaei, A., & Ahmadi, A. (2020). Operations research and health systems: A literature review. In Journal of Industrial Engineering and Management Studies, Journal of Industrial Engineering and Management Studies (Vol. 7, Issue 2, pp. 240–260). https://doi.org/10.22116/JIEMS.2020.231406.1360
3. Flagle, C. D. (2002). Some origins of operations research in the health services. Operations Research, 50(1), 52–60. https://doi.org/10.1287/opre.50.1.52.17805
4. Xie, X., & Lawley, M. A. (2015). Operations research in healthcare. International Journal of Production Research, 53(24), 7173–7176. https://doi.org/10.1080/00207543.2015.1102356
5. Grieco, L., Utley, M., & Crowe, S. (2020). Operational research applied to decisions in home health care: A systematic literature review. Journal of the Operational Research Society, 72(9), 1960–1991. https://doi.org/10.1080/01605682.2020.1750311

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ADVANCED FINANCIAL MANAGEMENT AND BUDGETING

Code: 26PH433
Max. Marks:

Course Objectives: This course aims to develop knowledge and skills in financial planning, budgeting, and resource management for efficient and sustainable public health programmes and healthcare organizations.

UNIT I: Introduction to Financial Management **(10 Hrs)**
Introduction to financial management; concepts, objectives, and importance of financial management in healthcare; role of finance in planning, organizing, and delivering health services.

UNIT II: Financial Analysis and Planning **(10 Hrs)**
Tools of financial analysis and planning in healthcare; budgeting, forecasting, resource allocation, and financial decision-making; use of financial statements and planning methods in health organizations.

UNIT III: Cash Flow and Costing **(10 Hrs)**
Cash flow management; accounts and balancing budget; cost analysis in healthcare; understanding cost and dividend for health outcomes; linking financial inputs with expected health results.

UNIT IV: Efficiency and Sustainability **(10 Hrs)**
Effectiveness and efficiency in health financing and program management; assessment of value for money; sustainability of health programs; financial strategies to support long-term program continuity and impact.

Suggested Readings:

1. Preker AS, Carrin G, Dror D, Jakab M, Hsiao W, Arhin-Tenkorang D. Effectiveness of community health financing in meeting the cost of illness. Bull World Health Organ. 2002;80(2):143-50. PMID: 11953793; PMCID: PMC2567719.
2. Patel P. Efficacy, Effectiveness, and Efficiency. Natl J Community Med 2021;12(2)
3. Personal document from a credible expert
4. Liaropoulos L, Goranitis I. Health care financing and the sustainability of health systems. Int J Equity Health. 2015 Sep 15;14:80. doi: 10.1186/s12939-015-0208-5.
5. Lawson, R.A.. (2005). The use of activity based costing in the healthcare industry: 1994 vs. 2004. Research in Healthcare Financial Management. 10. 77-94.
6. Perleth M, Jakubowski E, Busse R. What is 'best practice' in health care? State of the art and perspectives in improving the effectiveness and efficiency of the European health care systems. Health Policy. 2001 Jun;56(3):235-50. doi: 10.1016/s0168-8510(00)00138-x. PMID: 11399348.

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ORGANIZATIONAL MANAGEMENT AND SERVICES

Code: 26PH434
Max. Marks:

Course Objectives: This course aims to provide an understanding of organizational principles, leadership, resource management, and service delivery for effective functioning of healthcare organizations.

UNIT I: Fundamentals of Organizations **(10 Hrs)**

- Concept and nature of organizations
- Components of an organization: Purpose, Coordination, Division of Labour, and Hierarchy
- Setting common goals and objectives
- Organizational effectiveness and alignment

UNIT II: Project Management Essentials **(10 Hrs)**

- Introduction to Project Management
- Project Management Lifecycle: Initiation, Planning, Execution, Monitoring & Controlling, and Closure
- Priority setting and resource allocation in projects
- Role of planning in achieving project success

UNIT III: Managerial Skills for Organizational Success **(10 Hrs)**

- Analytical thinking and decision-making
- Leadership: Concepts, styles, and significance
- Risk identification, assessment, and control
- Problem-solving and strategic decision-making in organizations

UNIT IV: Organizational Challenges and Learning from Failures **(10 Hrs)**

- Causes of organizational failure
- Common managerial and operational challenges
- Case studies on organizational failures and lessons learned
- Best practices for improving organizational performance and sustainability

Suggested Readings:

1. Marengo, Luigi; Dosi, Giovanni (2003) : Division of labor, organizational coordination and markt mechanism in collective problem-solving, LEM Working Paper Series, No. 2003/04, Scuola Superiore Sant'Anna, Laboratory of Economics and Management (LEM), Pisa
2. Ahmady, G. A., Mehrpour, M., Nikooravesh, A., & The Authors. (n.d.). Organizational structure. In Ardabil Industrial Management Institute, Procedia - Social and Behavioral Sciences (Vol. 230, pp. 455–462).
3. Radević, I., Dimovski, V., Lojpur, A., & Colnar, S. (2021). Quality of Healthcare Services in Focus: The Role of Knowledge Transfer, Hierarchical Organizational Structure and Trust. Knowledge Management Research & Practice, 21(3), 525–536. https://doi.org/10.1080/14778238.2021.1932623
4. Mısırlıoğlu, A., & Murt, E. (2024). PROJECT MANAGEMENT APPROACH IN HEALTHCARE SERVICES. Journal of Law and Sustainable Development, 12(7), e3798. https://doi.org/10.55908/sdgs.v12i7.3798
5. Tóth, K., Helmeczi, G., Paulikné Varga, B., Takács, P., Levente Varga, László Lorenzovici, & Enikő Kovácsné Orosz. (2023). Project management in healthcare. https://healall.eu/home/wp-content/uploads/2023/11/J09_Project-management-in-Healthcare_EN-10.30.pdf
6. Mitton, C., & Donaldson, C. (2004). Health care priority setting: principles, practice and challenges. Cost Effectiveness and Resource Allocation, 2(1), 3. https://doi.org/10.1186/1478-7547-2-3

7. Angelis, A., Kanavos, P., & Montibeller, G. (2016). Resource allocation and priority setting in health care: a multi-criteria decision analysis problem of value? Global Policy, 8(S2), 76–83. https://doi.org/10.1111/1758-5899.12387
8. Seixas, B.V., Dionne, F. & Mitton, C. Practices of decision making in priority setting and resource allocation: a scoping review and narrative synthesis of existing frameworks. Health Econ Rev 11, 2 (2021). https://doi.org/10.1186/s13561-020-00300-0

EFFECTIVE ADVOCACY AND COMMUNICATION IN PUBLIC HEALTH

Code: 26PH435
Max. Marks:

Course Objectives: This course aims to develop effective communication, advocacy, leadership, and professional skills for promoting public health initiatives, influencing policy, and engaging diverse stakeholders.

UNIT I: Foundations of Effective Communication **(10 Hrs)**

- Concept, process, and importance of communication
- Effective communication: Verbal and Non-verbal communication
- Barriers to communication and strategies for overcoming them
- Interpersonal communication skills

UNIT II: Public Speaking and Written Communication **(10 Hrs)**

- Principles and techniques of public speaking
- Speech preparation, presentation, and audience engagement
- Various forms of written communication: Letters, emails, reports, notices, and proposals
- Essentials of professional writing

UNIT III: Advocacy and Collaborative Communication **(10 Hrs)**

- Evidence-based advocacy: Concepts and techniques
- Persuasive communication and presentation of evidence
- Consensus-building and negotiation skills
- Communication for teamwork and conflict resolution

UNIT IV: Professional Communication and Workplace Etiquette **(10 Hrs)**

- Use of audio-visual aids in communication and presentations
- Effective presentation skills using digital tools
- Workplace etiquette and professional behaviour
- Ethics, professionalism, and communication in organisational settings

Suggested Readings:

1. Wayne W. LaMorte, MD, PhD, MPH; August 29, 2018; Boston University School of Public Health
2. Making Health Communications Work", U.S. Department of Health & Human Services.
3. Public Health Service. National Institutes of Health and National Cancer Institute
4. Goyet. (n.d.). Community participation. In Manual (pp. 177–179). https://ec.europa.eu/echo/files/evaluation/watsan2005/annex_files/WEDC/es/ES12CD.pd f
5. Bhasin, Veena. (2007). Medical Anthropology: A Review. Ethnomedicine. 1. 10.1080/09735070.2007.11886296.
6. Ravi, P. (2021). Significance of Non-Verbal Communication in Effective Healthcare Management. www.academia.edu.
7. Dominika Kwasnicka, Stephan U Dombrowski, Martin White & Falko; Sniehotta (2016)

8. Theoretical explanations for maintenance of behaviour change: a systematic review of behaviour theories, Health Psychology Review, 10:3, 277-296, DOI: 10.1080/17437199.2016.1151372
9. Welch, D. (2017). Behaviour change and theories of practice: Contributions, limitations and developments. Social Business, 7(3-4), 241-261. Article 21. https://doi.org/10.1362/204440817X15108539431488
10. Rachel Davis, Rona Campbell, Zoe Hildon, Lorna Hobbs & Susan; Michie (2015) Theories of behaviour and behaviour change across the social and behavioural sciences: a scoping review, Health Psychology Review, 9:3, 323-344, DOI: 10.1080/17437199.2014.941722

REPRODUCTIVE AND SEXUAL HEALTH

Code: 26PH441
Max. Marks:

Course Objectives: This course aims to provide comprehensive knowledge of sexual and reproductive health, related policies, programmes, and interventions for promoting reproductive rights and improving population health.

UNIT I: Fundamentals of Reproductive Biology **(10 Hrs)**

- Concepts and scope of reproductive biology
- Structure and functions of the male and female reproductive systems
- Human reproductive processes and reproductive health
- Factors influencing reproductive health

UNIT II: Adolescent Sexual and Reproductive Health **(10 Hrs)**

- Growth and development during adolescence
- Sexual and reproductive health needs of adolescents
- Menstrual health, hygiene, and reproductive rights
- Prevention of sexually transmitted infections (STIs) and early pregnancy

UNIT III: Reproductive Health Policies and Family Welfare **(10 Hrs)**

- Concept and objectives of reproductive health policy
- National and international perspectives on reproductive health
- Family welfare measures and family planning methods
- Maternal and child health services

UNIT IV: Reproductive Health Programmes in India **(10 Hrs)**

- Evolution and objectives of reproductive health programmes in India
- National initiatives for maternal, newborn, child, and adolescent health
- Population stabilization and reproductive health strategies
- Challenges, achievements, and future directions of reproductive health programmes in India

Suggested Readings:

1. https://books.google.co.in/books?hl=en&lr=&id=ZKZFDwAAQBAJ&oi=fnd&pg=PR8&dq=Fundamentals+of+human+reproduction+open&ots=MGGwkdbKGL&sig=9_jeZaGXg_aa17QpWJHWqfQAFWY&redir_esc=y#v=onepage&q&f=false
2. Mehta, B. (2013). Adolescent reproductive and sexual health in India: the need to focus. Journal of Young Medical Researchers, 1(1). https://doi.org/10.7869/jymr.7
3. Jejeebhoy, S. J., & Santhya, K. G. (2011). Sexual and reproductive health of young people in India: A review of policies, laws and programmes (By Population Council). Population Council.

4. Santhya, K., & Jejeebhoy, S. J. (n.d.). Young people's sexual and reproductive health in India: Policies, programmes and realities. Knowledge Commons. https://knowledgecommons.popcouncil.org/departments_sbsr-rh/529/
5. Sanneving, L., Trygg, N., Saxena, D., Mavalankar, D., & Thomsen, S. (2013). Inequity in India: the case of maternal and reproductive health. Global Health Action, 6(1). https://doi.org/10.3402/gha.v6i0.19145
6. Tripathi, N. (2021). Does family life education influence attitudes towards sexual and reproductive health matters among unmarried young women in India? PLoS ONE, 16(1), e0245883. https://doi.org/10.1371/journal.pone.0245883
7. Bruns, H. R., SN. (2016). Government-Led Programs to Improve Maternal and Infant Health in India: a Systematic Review of Literature. In J. Kue & The Ohio State University, The Ohio State University [Journal-article]

MATERNAL AND CHILD HEALTH

Code: 26PH442
Max. Marks:

Course Objectives: This course aims to develop an understanding of maternal, newborn, and child health issues, programmes, and evidence-based interventions for improving maternal and child health outcomes.

UNIT I: Foundations of Maternal, Newborn and Child Health **(10 Hrs)**

- Introduction to Maternal, Newborn and Child Health (MCH): Concepts, scope, and behavioral basis
- Historical development of MCH services in India
- Reproductive and perinatal epidemiology
- Determinants of maternal and child health

UNIT II: Maternal and Newborn Health **(10 Hrs)**

- Prenatal growth and fetal development
- Maternal health during pregnancy, childbirth, and the postnatal period
- Issues in the reduction of maternal and neonatal mortality
- Strategies for preventing perinatal and neonatal mortality

UNIT III: Child Health, Nutrition, and Disease Prevention **(10 Hrs)**

- Infant growth and development
- Nutrition and growth in maternal and child health
- Infectious diseases affecting child survival
- Immunization and preventive healthcare for children

UNIT IV: Policies, Legislation, and MCH Programmes **(10 Hrs)**

- National legislations related to maternal and child health
- Maternal and Child Health programmes in India
- Government initiatives for improving maternal, newborn, and child health
- Emerging challenges and future directions in MCH

Suggested Readings:

1. Vellakkal, S., Gupta, A., Khan, Z., Stuckler, D., Reeves, A., Ebrahim, S., Bowling, A., & Doyle, P. (2016). Has India's national rural health mission reduced inequities in maternal health services? A pre-post repeated cross-sectional study. Health Policy and Planning, 32(1), 79–90.
2. Kaur, G., Gupta, K., & Shyam, S. (2021). Evaluation of antenatal services at Family welfare Centre under RMNCH+A Programme in Delhi. Journal of Family Medicine and Primary Care, 10(10), 3869–3875.

3. Das, A. K., Yadav, A., Population Council Consulting, & LEHS, WISH Foundation. (2023). A Critical Review of India's RMNCH+A Strategy (2014) to achieve UN SDG 2030 goal for Neonatal Mortality Rate [Article]. Demography India, 119.
4. Taneja, G., Sridhar, V. S., Mohanty, J. S., Joshi, A., Bhushan, P., Jain, M., Gupta, S., Khera, A., Kumar, R., & Gera, R. (2019). India's RMNCH+A Strategy: approach, learnings and limitations. BMJ Global Health, 4(3), e001162.
5. Engmann, C. M., Khan, S., Moyer, C. A., Coffey, P. S., & Bhutta, Z. A. (2016). Transformative Innovations in Reproductive, Maternal, Newborn, and Child Health over the Next 20 Years. PLoS Medicine, 13(3), e1001969.
6. Victora, C. G., Barros, F. C., & Post-Graduate Course in Epidemiology, Universidade Federal de Pelotas, Rio Grande do Sul, Brazil and PAHO/WHO Latin American Center for Perinatology, Montevideo, Uruguay. (2001). Infant mortality due to perinatal causes in Brazil: trends, regional patterns and possible interventions. São Paulo Medical Journal - Revista Paulista De Medicina, 119–1, 33–42.
7. Morris, S. K., Bassani, D. G., Awasthi, S., Kumar, R., Shet, A., Suraweera, W., & Jha, P. (2011). Diarrhea, pneumonia, and infectious disease mortality in children aged 5 to 14 years in India. PLoS ONE, 6(5), e20119. https://doi.org/10.1371/journal.pone.0020119
8. Khandelwal, S., Dayal, R., Bhalla, S., Public Health Foundation of India, Population Council New Delhi, & Visva-Bharati University. (2014). A review of government programmes for women and Children in India: Implications for nutrition during the thousand-day period. In The Indian Journal of Nutrition and Dietetics.

ADOLESCENT HEALTH

Code: 26PH443
Max. Marks:

Course Objectives: This course aims to equip learners with knowledge of adolescent health needs, determinants, policies, and interventions for promoting healthy growth, development, and well-being.

UNIT I: Foundations of Adolescent Health **(10 Hrs)**

- Overview of population health approaches for adolescents
- Concepts, principles, and determinants of adolescent health
- Adolescent growth and development: Physical, cognitive, emotional, and social dimensions
- Epidemiology and burden of adolescent health issues

UNIT II: Social and Global Perspectives on Adolescent Health **(10 Hrs)**

- The social context of adolescent health and development
- Family, school, peers, media, and community influences
- International perspectives on adolescent health
- Adolescent health status and challenges in India

UNIT III: Adolescent Health Issues and Promotion **(10 Hrs)**

- Nutrition and health: Anemia, obesity, and healthy lifestyles
- Teenage pregnancy and menstrual health and hygiene
- Mental health promotion and prevention of mental illness
- Prevention of substance use, violence, and the influence of media on adolescent health

UNIT IV: Policies, Programmes, and Health Systems **(10 Hrs)**

- Adolescent health policies and health systems
- National programmes and initiatives for adolescent health in India
- School and community-based adolescent health promotion strategies
- Emerging challenges and future directions in adolescent health

Suggested Readings:

1. Wadhwa, R., Chaudhary, N., Bisht, N., Gupta, A., Behera, N., Verma, A. K., Chopra, M., Jain, M., Verma, G., Gupta, S., Taneja, G., & Gera, R. (2018). Improving adolescent health services across high priority districts in 6 states of India: Learnings from an integrated reproductive maternal newborn child and adolescent health project. Indian Journal of Community Medicine, 43(5), 6.
2. Sahadevan, S., Iang, M. D., & Dureab, F. (2023). Effect of adolescent health policies on health outcomes in India. Adolescents, 3(4), 613–624.
3. Taghizadeh Moghaddam, H., 1, Shahinfar, S., 2, Bahreini, A., 3, Ajilian Abbasi, M., Fazli, F., & Saeidi, M. (2016). Adolescence Health: the Needs, Problems and Attention. In Int J Pediatr (Vols. 4–4, pp. 1423–1438). http://ijp.mums.ac.ir
4. Health risks and developmental transitions during adolescence. (n.d.). Google Books.
5. Chu-Ko, F., Chong, M., Chung, C., Chang, C., Liu, H., & Huang, L. (2021). Exploring the factors related to adolescent health literacy, health-promoting lifestyle profile, and health status. BMC Public Health, 21(1), 2196. https://doi.org/10.1186/s12889-021-12239-w
6. Review of the India Adolescent Health Strategy in the context of disease burden among adolescents, Dandona, Rakhi et al. The Lancet Regional Health - Southeast Asia, Volume 20, 100283
7. Jain N, Bahl D, Mehta R, et alProgress and challenges in implementing adolescent and school health programmes in India: a rapid reviewBMJ Open 2022;12:e047435. doi: 10.1136/bmjopen-2020-047435

GENDER AND HEALTH

Code: 26PH444
Max. Marks:

Course Objectives: This course aims to develop an understanding of gender, equity, and social inclusion in health, and their influence on healthcare access, health outcomes, and public health policy.

UNIT I: Foundations of Gender and Social Inclusion **(10 Hrs)**

- Concepts of gender, sex, vulnerable populations, gender equality, gender equity, and emerging issues
- Difference between equity and equality
- Social exclusion and inclusion: Concepts, forms, and determinants
- Intersectionality and its relevance to public health

UNIT II: Gender, Social Exclusion, and Health **(10 Hrs)**

- Distinction between sex and gender and their influence on health outcomes
- Impact of gender and social exclusion on access to healthcare and health information
- Health inequities among women and socially excluded populations
- Barriers to equitable healthcare utilization

UNIT III: Addressing Gender and Social Inequities **(10 Hrs)**

- Understanding discrimination from grassroots perspectives
- Promoting agency, participation, and empowerment of women and marginalized groups
- Gender-sensitive and socially inclusive approaches in healthcare delivery
- Best practices in Gender and Social Inclusion (GSI) in India

UNIT IV: Gender and Social Inclusion in Public Health Practice **(10 Hrs)**

- Integrating Gender and Social Inclusion (GSI) into public health research
- GSI approaches in programme planning, implementation, and evaluation
- Gender-responsive policies, advocacy, and health systems
- Tools and frameworks for mainstreaming GSI in public health

Suggested Readings:

1. Agarwal, Disha & Bhuvanasri, Polasa & tetarwal, preeti & Pandey, Anjali & Tripathi, Somdutt. (2025). Gender Equality and Equity: Concepts, Challenges and Progress.
2. Yuxi Wang, Aleksandra Torbica, Investigating the relationship between health and gender equality: What role do maternal, reproductive, and sexual health services play?, Health Policy, Volume 149, 2024, 105171, ISSN 0168-8510, https://doi.org/10.1016/j.healthpol.2024.105171
3. McDonald, Et. Al., World Health Organization, & Department of Gender and Women's Health. (2002). Gender analysis in health: A review of selected tools [Review]. In World Health Organization, World Health Organization.
4. Cuesta, J., López-Noval, B., & Niño-Zarazúa, M. (2024). Social exclusion concepts, measurement, and a global estimate. PLoS ONE, 19(2), e0298085. https://doi.org/10.1371/journal.pone.0298085
5. Greaves, L.; Ritz, S.A. Sex, Gender and Health: Mapping the Landscape of Research and Policy. Int. J. Environ. Res. Public Health 2022, 19, 2563. https://doi.org/10.3390/ijerph19052563
6. Ziegler, S., Srivastava, S., Parmar, D. et al. A step closer towards achieving universal health coverage: the role of gender in enrolment in health insurance in India. BMC Health Serv Res 24, 141 (2024). https://doi.org/10.1186/s12913-023-10473-z
7. View of The need for age-inclusive and gender-sensitive social policies for India's longevity society. (n.d.). http://www.aging-longevity.org.ua/index.php/journal-description/article/view/168/161
8. Mott, J., Kilsby, D., & Eller, E. (2025, April 29). Gender Equality, Disability and Social Inclusion Self-Assessment Tool. Figshare. https://opendocs.ids.ac.uk/articles/report/Gender_Equality_Disability_and_Social_Inclusion_Self-Assessment_Tool/29097977/1?file=54638972
9. IRC. (n.d.). Towards Gender Equity and Social Inclusion (GESI) responsive WASH Systems Strengthening. https://researchonline.lshtm.ac.uk/id/eprint/4675052/

PUBLIC HEALTH NUTRITION

Code: 26PH445
Max. Marks:

Course Objectives: This course aims to provide knowledge and practical understanding of nutrition across the life course, community nutrition, and public health nutrition programmes for preventing malnutrition and promoting population health.

UNIT I: Fundamentals of Nutrition and Public Health **(10 Hrs)**

- Basic concepts and principles of food and nutrition
- Nutrition and its role in promoting human health
- Concept, purpose, and scope of Public Health Nutrition
- Population-based dietary and nutritional recommendations
- Introduction to nutritional epidemiology: Definition, applications, and significance

UNIT II: Community Nutrition and Nutritional Assessment **(10 Hrs)**

- Role of community nutrition in improving population health
- Community nutrition needs assessment: Data sources and assessment methodologies
- Determinants and pillars of a healthy community
- Assessment of nutritional status at the community level

UNIT III: Public Health Nutrition Challenges **(10 Hrs)**

- Major nutritional concerns across the life course
- Adolescent, women's, maternal, and child nutrition
- Undernutrition and overnutrition
- Nutrition transition, obesity, and diet-related chronic diseases

- Prevention and management of community nutrition problems

UNIT IV: Nutrition Programmes, Education, and Policy **(10 Hrs)**

- Principles and methods of nutrition education
- Planning, implementation, and management of nutrition programmes
- Intersectoral approaches to nutrition and food policy
- National nutrition programmes and initiatives in India
- Monitoring and evaluation of community nutrition interventions

Suggested Readings:

1. Mann, J., & Truswell, A. S. (Eds.). (2002). Essentials of human nutrition (Second Edition). Oxford University Press. httpslibrary.knu.edu.afopactemp15992.pdf
2. Alt, K.W.; Al-Ahmad, A.; Woelber, J.P. Nutrition and Health in Human Evolution–Past to Present. Nutrients 2022, 14, 3594. https://doi.org/10.3390/nu14173594
3. Caraher M, Coveney J. Public health nutrition and food policy. Public Health Nutrition. 2004;7(5):591-598. doi:10.1079/PHN2003575
4. Mankar, A., Kawalkar, U., Syed, Z. Q., & Gaidhane, A. (2025). Nutrition literacy: a key factor in public health improvement in India. Frontiers in Nutrition, 12, 1643629. https://doi.org/10.3389/fnut.2025.1643629
5. Shankar, B., Agrawal, S., Beaudreault, A. R., Avula, L., Martorell, R., Osendarp, S., Prabhakaran, D., & Mclean, M. S. (2017). Dietary and nutritional change in India: implications for strategies, policies, and interventions. Annals of the New York Academy of Sciences, 1395(1), 49–59. https://doi.org/10.1111/nyas.13324
6. Sreedevi, A. & Department of Community Medicine, Amrita Institute of Medical Sciences, Ponnekara PO, Amrita Vishwa Vidyapeetham, Kochi, Kerala, India. (2015). An overview of the development and status of national nutritional programs in India. In Journal of Medical Nutrition and Nutraceuticals (Vol. 4, Issue 1, pp. 5–6).
7. Khandelwal, S., Dayal, R., Bhalla, S., Paul, T., Public Health Foundation of India, Population Council New Delhi, & Visva-Bharati University. (2014). A review of government programmes for women and Children in India: Implications for nutrition during the thousand day period. In The Indian Journal of Nutrition and Dietetics.

INDIAN CONSTITUTION

Code: 26GN401
Max Marks: 70

Course Objectives: The objective of the *Indian Constitution* course is to provide the students with a foundational understanding of the principles, structure, and functioning of the Indian Constitution. The course emphasises the rights and duties of citizens, governance frameworks, and the role of the Constitution in shaping the democratic and legal structure of India.

UNIT I **(05 Hrs)**

Introduction to Constitution: Meaning and importance of the Constitution, salient features of the Indian Constitution. Preamble of the Constitution. Fundamental rights- meaning and limitations. Directive principles of state policy and Fundamental duties -their enforcement and their relevance.

UNIT II **(05 Hrs)**

Union Government: Union Executive- President, Vice-President, Prime Minister, Council of Ministers. Union Legislature- Parliament and Parliamentary proceedings. Union Judiciary-Supreme Court of India – composition, powers and functions.

UNIT III **(05 Hrs)**

State and Local Governments: State Executive- Governor, Chief Minister, Council of Ministers. State Legislature, State Legislative Assembly and State Legislative Council. State Judiciary-High Court. Local Government-Panchayat Raj System with special reference to 73rd and Urban Local Self-Government with special reference to 74th Amendment.

UNIT IV **(05 Hrs)**

Election provisions, Emergency provisions, Amendment of the constitution: Election Commission of India- composition, powers and functions and electoral process. Types of emergency grounds, procedure, duration and effects. Amendment of the Constitution- meaning, procedure and limitations.

Text Book:

1. M. V. Pylee, "Introduction to the Constitution of India",4th Edition, Vikas Publication,2005.
2. Durga Das Basu (DD Basu), "Introduction to the Constitution of India", (Student Edition), 19th edition, Prentice-Hall EEE, 2008.

Suggested Readings:

1. Merunandan, "Multiple Choice Questions on Constitution of India", 2nd Edition, Meraga Publication, 2007.

DRUG ABUSE, ROAD SAFETY & TRAFFIC RULES

Code: 26GN402

Max Marks: 70

Course Objectives: This course aims to create awareness about the harmful effects of drug abuse, the importance of road safety, and the need to follow traffic rules. It seeks to help learners understand the physical, mental, social, and legal consequences of substance abuse, while also developing responsible attitudes and decision-making skills to avoid peer pressure and risky behaviour. The course further intends to build knowledge of traffic signals, road signs, and safe road use practices, so that learners can behave responsibly as pedestrians, cyclists, passengers, and drivers.

UNIT I: **(10 Hrs)**

Problem of Drug Abuse

a) Concept and overview
b) Types of drugs often abused and their effects (Stimulants, Depressants, Narcotics, Hallucinogens, and Miscellaneous).

Causes of consequences of drug abuse

a) Theories of drug abuse: Physiological theory. Psychological theory. Sociological theory.
b) Consequences of drug abuse: For individuals, families, society and the economy.

Extent and nature of the problem

a) Magnitude of the menace of drug abuse.
b) Vulnerable age groups.
c) Characteristic and features of proneness.
d) Signs and symptoms of drug abuse (Physical indicators, Academic indicators, Behavioural and psychological indicators).

Prevention and management of drug abuse

a) Legislation, public policies and programs for the prevention and cure of drug abuse.
b) Prevention and Management of drug abuse. Medical management.
c) Working of drug De-addiction Centres. Role of Family, School and Media.

UNIT II: **(10 Hrs)**

a) Concept and Significance of Road Safety.
b) Role of Traffic Police in Road Safety.
c) Traffic Engineering – Concept & Significance.

d) Traffic Rules & Traffic Signs.
e) How to obtain a driving license.
f) Traffic Offences, Penalties and Procedures.
g) Common Driving mistakes.
h) Significance of First-aid in Road Safety.
i) Role of Civil Society in Road Safety.
j) Traffic Police-Public Relationship.

Suggested Readings:

1. Clayton, J.M., and Scott, M.A (2014). Drugs and Drug Policy: the control of consciousness alteration. New Delhi: Sage Publications India Pvt. Ltd.
2. Kapoor, T. (1985). Drug epidemic among Indian Youth, New Delhi: Mittal Pub
3. Modi, I and Modi, S. (1997). Drugs: Addiction and prevention, Jaipur: Rawat Publication.
4. 2003 National Household Survey of Alcohol and Drug Abuse. New Delhi, Clinical Epidemiological Unit, AIIMS, 2004
5. World Drug Report (updated every year), United Nations office of Drug and Crime.
6. Extent, pattern and Trend of Drug use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.
7. The Narcotic Drugs and Psychotropic Substances Act, 1985. (New Delhi: Universal, 2012).
8. Government of India (2015). Scheme of assistance for prevention and alcoholism and substance (Drugs) abuse and for social defence services-Guidelines. Ministry of social Justice and Empowerment. New Delhi.
9. NCERT (2010). Training Resource Materials (Adolescence Education Programme).
10. The Motor Vehicle Act, 1988 (2010), Universal Law Publishing Co. Pvt. Ltd., New Delhi.
11. Road Safety Signage and Signs (2011), Ministry of Road Transport and Highways, Government of India.