CURRICULUM

For

MASTERS IN PUBLIC HEALTH (MPH)

2 YEARS PROGRAM
## Semester 1

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<tr>
<th>S.NO</th>
<th>Code</th>
<th>Course</th>
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<tbody>
<tr>
<td>1</td>
<td>MPH 501</td>
<td>Epidemiology – Introduction to theory and practice</td>
<td>03</td>
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<tr>
<td>2</td>
<td>MPH 502</td>
<td>Statistical Methods in Public Health</td>
<td>03</td>
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<tr>
<td>3</td>
<td>MPH 503</td>
<td>Communicable &amp; Non Communicable Disease Control</td>
<td>03</td>
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<td>4</td>
<td>MPH 504</td>
<td>Technical Report Writing &amp; Basic Communication Skills</td>
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<td>5</td>
<td>MPH 505</td>
<td>Computer Applications in Public Health</td>
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<td>6</td>
<td>MPH 506</td>
<td>Health Education &amp; Promotion</td>
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<td>7</td>
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<td>Field Visits</td>
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**TOTAL** 19

## Semester 2

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<tr>
<td>1</td>
<td>MPH 508</td>
<td>Epidemiology – Application to theory and practice</td>
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<td>2</td>
<td>MPH 509</td>
<td>Nutrition</td>
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<td>MPH 510</td>
<td>Public Health Management &amp; Policy</td>
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<td>MPH 511</td>
<td>Health Economics</td>
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<td>MPH 512</td>
<td>Occupational Health &amp; Environmental Hazards</td>
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## Semester 3

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<td>Hospital Management</td>
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<td>2</td>
<td>MPH 515</td>
<td>Community Interventions in Reproductive Health</td>
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<tr>
<td>3</td>
<td>MPH 516</td>
<td>Primary Health Care</td>
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<td>4</td>
<td>MPH 517</td>
<td>Research &amp; Ethics</td>
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<td>5</td>
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<td>Project Management</td>
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<td>6</td>
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**TOTAL** 17

## Semester 4

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<tr>
<td>2</td>
<td>MPH 521</td>
<td>Health Management &amp; Accounting</td>
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<td>3</td>
<td>MPH 522</td>
<td>Disaster Management</td>
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<td>4</td>
<td>MPH 523</td>
<td>Infectious Disease Epidemiology</td>
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<td>5</td>
<td>MPH 524</td>
<td>Survey Design and Data Collection</td>
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<td>6</td>
<td>MPH 525</td>
<td>Thesis</td>
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**TOTAL** 21

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HAFFEEZ INSTITUTE OF MEDICAL SCIENCES PESHAWAR
INTRODUCTION
Hafeez Institute of Medical Sciences (HIMS), Peshawar is the first Private Sector Medical Institute in Khyber Pakhtunkhwa. HIMS aims to provide

- Committed to developing future leaders in medical sciences.
- Committed to promoting and maintaining faculty of the highest quality to conduct research and become passionate teachers and mentors.
- Committed to provide a common forum for faculty, health educators, community partners, and students to come together to share and develop ideas that will improve the health of and quality of life of individuals & populations

1.1 HIMS Mission Statement
Service to humanity with a commitment for excellence in medical education and research, providing students with state of the art knowledge, skills and attitude to deliver the highest standards of health care to the people.

1.2 Goal of HIMS
- Create state of the art learning opportunities for faculty and students.
- Promote an environment of academic freedom.
- Develop valid assessment techniques for evaluation of knowledge, skill and attitude.
- Provide a supportive environment to promote lifelong learning to all health care providers for enhancing their knowledge, technical capabilities and professional conduct.
- Establish collaborations and partnerships within the HIMS constituent / affiliated colleges and other educational and health care institutes.
- Advocate for good public health policy, evidence based clinical practice and efficient health care delivery systems.

1.3 Institutional Objectives
1. Develop a multi-dimensional Comprehensive Health Care Approach encompassing all the four elements of health i.e. prevention, promotion, curative intervention & rehabilitation.
2. Include a Health Care Team approach at all levels of health care delivery for a comprehensive health care delivery system.
3. Set up the Semester System of Education.
4. Incorporate Behavioral Sciences and Humanities in the Medical Education Curriculum.
5. Promote and enhance the level of Education in Basic Medical Sciences, Nursing and Allied Health Sciences, And Public Health.
6. Learning innovations defined by a dynamic, relevant, comprehensive, evidence and outcome based curricula that accommodate healthy extra curricular, literary and cultural activities.
7. Implement an objective and Continuous System of Evaluation.
8. Nurture evidence based medical practice through Innovation, Scholarship, Partnership, Collaborations and Biomedical Research.
9. Establish the concepts of Academic Audit, Research Audit & Clinical Audit.
MPH COURSES FOR SEMESTER I

MPH 501: Epidemiology – Introduction to theory and practice
CREDIT HOURS: 3      MARKS 100
INTERNAL MARKS 40     EXTERNAL MARKS 60

Objective of the Course:
Epidemiological principles and methods needed to understand population-based statement of illness and health. Descriptive epidemiology, analytic epidemiology and epidemiological inference. Classification, morbidity and mortality rates, sampling, screening, epidemiological models, field trials, controlled epidemiological surveys, sources of bias and causal models.

Recommended Reading /Text

MPH 502: Statistical Methods in Public Health
CREDIT HOURS: 3      MARKS 100
INTERNAL MARKS 40     EXTERNAL MARKS 60

Objective of the Course:
Fundamental concepts and methods of biostatistics as applied predominantly to public health problems. Emphasis on interpretation and concepts rather than calculations. Topics include descriptive statistics; vital statistics; sampling; estimation and significance testing; sample size and power; correlation and regression; spatial and temporal trends; small area analysis; statistical issues in policy development. Examples of statistical methods will be drawn from public health practice. Use of computer statistical packages will be introduced.

Course Contents:
Definition, population and samples, data analysis and presentation, elementary statistical methods, tabulation, chart and diagram preparations, measures of central tendency and dispersion, sampling techniques and sample size estimation, probability and proportions, correlation and its applications; linear regression and multiple regression. Clinical trials and intervention studies. Measures for developing health statistical indicators: morbidity and mortality statistics. Use of latest statistical computer software for data analysis.

Recommended Reading /Text

HAFFEEZ INSTITUTE OF MEDICAL SCIENCES PESHAWAR
**MPH 503: Communicable & Non-communicable Disease Control**

**Objective of the Course:**
To understand key concepts of communicable and chronic non-communicable disease epidemiology with reference to developing countries and Pakistan and the role of health care provider in the prevention and control of communicable and chronic non-communicable disease. Skills to describe the interaction between the infectious agents and host factors (resistance and susceptibility) that contribute to the transmission of these diseases and the role of host factors in conferring both resistance and susceptibility to these diseases.

**Course Contents:**
Introduction of CDC, Tuberculosis, Control of Infection, Screening of Disease, Malaria, Dengue fever, Road Traffic Accidents & Safety, Skin Infection, Bird flu, Hospital acquired infection, Disease outbreak investigation, Mental Health, Stroke, Diabetes - A Major Public Health Problem, Hepatitis-C, Obesity, Rabies.

**Recommended Reading Text**
1. Preventive & Social Medicine by K. Park
2. Community Medicine in Public Health by Ilyas Shah Ansari
3. Communicable and Non-Communicable Disease Basics: A Primer by Madeline M. Hurster
4. An Introduction to Community Health by James F. McKenzie, Robert R. Pinger, Jerome E. Ketecki

**MPH 504: Technical Report Writing & Basic Communication Skills**

**Objective of the Course:**
The Importance of effective communication has emerged as science and art in this modern era. The objective of the course is to provide students with a basic understanding of communication skills (both verbal & written) and various dimensions of Technical Report, writing, how to develop a survey, including where to look for standardize measures, principles of items writing, revising poorly structured official correspondences, being also familiar with the many different options available for survey administration (phone, mail, interview, computerized, online).

**Course contents**
1. Principles of Communication Types and pros and cons of different types of communication. The types, flow and process of communication. Merits and demerits of interviews, telephone, mail, computer direct interviews, email survey, web-based survey.
2. Questionnaire design (types of questions, ordering of questions and responses, writing response categories, question layout, transitional statement). Tips on website layout.
4. Drafting different types of official letters
5. Different varieties of reports generated in an organization
6. The importance of press releases
7. How to make a powerful power point presentations and organizations of formal meetings along with agenda settings

**Recommended Reading Text**
Floyd J, Fowler, Jr. — Improving survey questions|| design and evaluation; applied social research methods series vol.38. Saga Publication; London, New Dehli; 1995.

- Basic Communication by Hudson,

HAFEEZ INSTITUTE OF MEDICAL SCIENCES PESHAWAR
MPH 505: Computer Application in Public Health

CREDIT HOURS: 3  MARKS 100
INTERNAL MARKS 40  EXTERNAL MARKS 60

Objectives of the course:
This course is designed to introduce students to the use of computers for development of statistical investigation and provide familiarity with different types of statistical applications and software. Topics include an overview of the Computer Systems, Hardware and software. The main focus of this course is to develop skills in data entry, import and export, data manipulation and management, presenting descriptive statistical results and basic data analysis. Familiarity with basic statistics is not required but is useful.

Recommended Reading /Text
2. Other manual for statistical software
3. Help options in the software programs

MPH 506: Health Education & Promotion

Objectives of the course:
An innovative, multilevel, service-oriented health course designed to educate, motivate, and empower high school, undergraduate, and graduate students to become advocates for their own health, the health of their peers, and the health of their community. Each educational cohort will have different expectations that are clearly delineated and will function as experiential experts on their own life cycle stage, each offering the other the substantial benefit accrued through this experience. This course is designed to allow motivated students to interrelate in a dynamic, interactive course that transcends the typical content oriented approach to health education, focusing on acquiring the knowledge and skills necessary to become health advocacy leaders in their respective communities. Effective health advocacy requires an understanding of:
1) Common medical problems in adolescents and young adults; 2) School health policies affecting health; 3) Principles of preventive medicine, health promotion and social marketing;
4) Personal development; and 5) evidence-based school prevention programs. This course is ideal for students interested in pursuing careers in medicine, public health, dentistry, nursing, law, anthropology, or social work.

Recommended Reading/ Text
3. Brace G. Simons – Morton; Walter H. Greene, Neeill H. Gottlieb. —Introduction to health education and health promotion[], Waveland Press, INC; Prospect Height... Illinois.

MPH 507: Field Visits.
Students will visits different hospitals to collect data regarding patients and doctors and the diseases.
MPH COURSES FOR SEMESTER II

MPH 508: Epidemiology – Application of theory, Methods and Practice

CREDIT HOURS: 3  MARKS 100
INTERNAL MARKS 40  EXTERNAL MARKS 60

Objectives of the course:
This course will cover the methods used in the conduct of epidemiological research. Topics include: case control studies, cohort studies, clinical trials, cross-section studies, exposure measurement, subject selection, validity, reliability, samples size and power, effect modification, confounding, bias, chance, risk assessment, frequency matching, matching, meta-analysis. Analysis of data sets will be given as well.

Course Contents:
Introduces principles and methods of epidemiologic investigation of infectious and noninfectious diseases. Illustrates how methods of studies of the distribution and dynamic behavior of infectious and chronic diseases in a population can contribute to an understanding of etiologic factors, modes of transmission, and pathogenesis. Presents different types of study design, including randomized trials, case-control and cohort studies, and risk estimation and causal inferences. Demonstrates the interface between epidemiology and the development of policy.

Recommended Reading/ Text


MPH 509: Nutrition

CREDIT HOURS: 3  MARKS 100
INTERNAL MARKS 40  EXTERNAL MARKS 60

Objectives of the Course:
The purpose of this course is to examine epidemiologic methodology in the relation to nutrition measure and to provide an overview of the current state of knowledge regarding diet as an etiologic factor in disease. The course will include a guest faculty from the department of nutrition to review methods for assessing dietary intake including the advantages and limitation of different diet assessment techniques and the levels and sources of measurement error in nutritional assessment. The course designed to provide an overview of nutritional epidemiology content and concept and enable investigators outside of nutrition to develop an understanding of nutrition/dietary measurements and analysis, incorporate appropriate nutritional measure in their studies and better communicate and collaborate with nutritional researchers. Topics include:

- Nutrition / disease relationship through the application of epidemiologic methods.
- Measure of exposure and outcome in nutritional epidemiology
- Dietary intake and biomarkers
- Diet/ nutrition and disease prevention
- Specific studies of diet, nutrition and disease.

Recommended Reading/Text

Objectives of the course:
Health planning is major task of public health professional working in the government and the private sector in position of program and project manager, at district and below. Public health professionals are required to have sound knowledge and skill to plan, implement and monitor the program at the prescribed levels.

At the end of the course, the student should be able to;
- List the sequential steps of the micro planning cycle.
- Explain the difference and relationship between different types of planning.
- Apply certain tools and technique for district health and project planning.
- Develop a district health plan/ program implementation plan with an adequate budget.
- Conduct a stakeholder analysis in the process of policy development.
- Understand the implementation modalities of macro level and micro level policy decisions at micro level (translation of policies into action)
- Describe the policy procedure that exist in Pakistan and in other countries and critique their strengths and weaknesses.

Recommended Reading/ Text

Objectives of the course:
Topics include budgeting, cost-benefit ratios, cost-effectiveness, cost-utility analysis, and healthcare outcomes. Quality of life and other measures of effectiveness will also be addressed. Emphasis on case studies, course project, and evaluation of publications. Decision analysis and policy implications will also be included. Some

Recommended Reading/ Text
1. WHO. —Macroeconomic environment and health]], 1993 Switzerland: WHO
4. Zaidi, S A. —The political economy of health care in Pakistan]], 1988, Lahore; Vanguard
6. Fazli Hakim Khattak. —Health economics and planning in Pakistan]], ad- Rays Publisher, Blue Area, Islamabad; 1996.
Objectives of the course:
The overall goal of the course is to improve the capacity of students in terms of their knowledge, skills & attitude of occupational health and environmental hazards. Identify & suggest remedial measures of indigenous occupational and environmental health hazards. To provide skills i.e. identify and diagnose the disease and then refer to specialist.

Course Contents:
History & Introduction to occupational health, Occupational Hazards, Work Organization & Stress., Occupational Back Pain, Investigating the Workplace, Occupational Lung Diseases, Industrial Noise Pollution, Occupational Cancers, Occupational Infections, Introduction to Environmental Health, Climate Change & Health, Environmental Health in emergencies & disasters, Healthy settings, Indoor air pollution, Public Health & Environment, Outdoor air pollution

Recommended Reading/ Text
ii. Protecting Workers’ Health Series No. 3 by Stavroula Leka BA MSc PhD
iii. Fundamental principles of occupational health and safety, Second edition
iv. ABC of Occupational and Environmental Medicine

MPH 513: Field Visits.
Students will visits different hospitals to collect data regarding patients and doctors and the diseases.
MPH COURSES FOR SEMESTER III

MPH 514: Hospital Management

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**Objectives of the Course:**
The goal of the course is to enhance the students' knowledge regarding management and other issues faced by hospital managers and to develop their skills to address the managerial and administrative issues of Public and Private sector hospitals at all levels.

**Course Contents:**
Health Care in Pakistan—A Profile and the Future, Planning a Modern Hospital, Hospital Organization Structure, Financial Management for Hospitals, Human Resource Management in Hospitals, Hospital Materials Management, Hospital Stores Organization and Pharmacy, Selective Systems of Materials Management in a Hospital—Case Illustration, Effective Drug Management, Customer Experience Management, Medical Records, Operations Research in Hospitals, Hospital Waste Management, Patient Relations in Hospitals, Medical Audit and its Administration, Hospitals Certification

**Recommended Reading/ Text**
i. Managing a Modern Hospital. A. V. Srinivasan

MPH 515: Community Interventions in Reproductive Health

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**Objectives of the Course:**
To introduce to the students importance issues of reproductive health and community obstetrics: its various stages and their management.

**Course Contents**
Historical development and reasons for maternal and child health services, nutrition and malnutrition, measurement of health, health services for mothers, health services for children. Female morbidity and mortality indicators and their evaluation. Organization of reproductive health service in Pakistan, their priorities, coverage and utilization rates; challenges faced and agenda for reforms in the future.

**Recommended Reading/ Text**
MPH 516: Primary Health Care

CREDIT HOURS: 3  MARKS 100
INTERNAL MARKS 40  EXTERNAL MARKS 60

Objectives of the Course:
Summarize the key factors that informed the development of the Primary Health Care Approach, Explain the key principles of comprehensive primary health care (CPHC), Critically analyse the main differences between a selective and a comprehensive approach to primary health care, Describe the main features of the district health system, Discuss critically the importance of intersectoral action and community involvement in health development, Identify the key measures of success of PHC, and the barriers to implementation of CPHC on an international level.

Course Contents:
Primary health care terminology and links to population health, health promotion and the determinants of health. Phases of team development, nature of teams, process of change, managing team meetings, consensus building, understanding the roles of different providers on the PHC team. Identifying new sources of community support and resources, referral practices, nature and levels of partnerships, exploring new partners and strategies for initiating them, critical factors for a successful partnership and assessing partnership effectiveness. Program planning: key steps, determining program activities, and creating a program profile, a program planning model and an action plan and Evaluation: key steps, key types and creating a basic evaluation framework.

Recommended Reading: Text

MPH 517: Research & Ethics

CREDIT HOURS: 3  MARKS 100
INTERNAL MARKS 40  EXTERNAL MARKS 60

Objectives of the course:
- To improve the quality of research by improving skills in behavioral change, communications and strengthening of character of the participants by introducing them to the basic concepts of research & ethics in clinical practice.
- To understand the ethics of care and virtue and the standard of care in developing countries.
- They will be confronted with ethical dilemmas faced by physicians as well as researchers and will be expected to give their opinion on various aspects of ethical issues and made to recommend solutions.
- They shall be introduced to the subjects of conflict of interest and relationship with pharmaceutical industry as well as other grant giving agencies.
- At the end of the course the participants should be able to organize and facilitate Ethics Review Committees in their place of work and should be able to critically analyze research projects submitted to them from all aspects of ethical framework.
**MPH 518: Project Management**

**CREDIT HOURS:** 3  
**MARKS 100**

**INTERNAL MARKS** 40  
**EXTERNAL MARKS** 60

**Objectives of the Course:**
To raise awareness on the value of project management & broaden project management skills in project managers and development organizations & to enable project team members understand project management concepts and enable them to participate more effectively.

**Course Contents:**

**Recommended Reading/Text**
2. Step by Step Office Project 2007
3. Directing Successful Projects with PRINCE2 Manual

**MPH 519: Field Visits.**
Students will visits different hospitals to collect data regarding patients and doctors and the diseases.
Objectives of the course:
To promote child advocacy by enhancing resident educational and experiential opportunities, To increase community partnerships to enhance resident knowledge and skills to practice community pediatrics, To promote and support evidence-based community practices to improve child health, To achieve institutional change that incorporates and sustains Community Pediatrics.

Course Contents:
Epidemiology for Child Health, Evidence-based Child Health, Molecular and Genetic Basis of Pediatrics, Specialist Pediatrics I (Acute), The Healthy Child Programme 0-18 years, Teaching & Learning in Medical Education, Child development and disability, inclusive approaches in global contexts (CIHDG010 shared with MSc Global Health and Development), Immunization and communicable diseases, Specialist Pediatrics II (Chronic), Safeguarding and Children in Society, Leadership and Professional Development, Nutrition, growth and physical activity Investigations and Management in Pediatric Gastroenterology, Principles and Practice in Pediatric Gastroenterology

Objectives of the course:
The aim of the course is not complex. The course aims to provide you with an understanding of Health Management Information System; it also aims to provide you with solutions to health challenges in the communities.

Course Contents:
To achieve the aims set out; the course has a set of objectives. Each unit has specific objectives which are included at the beginning of the unit. You should read these objectives before you study the unit. You may which to refer to them during your study to check on your progress. You should always look at the unit objectives after completion of each unit.
By doing so, you would have followed the instructions in the unit.

Below are the comprehensive objectives of the course as a whole. By meeting these objectives, you should have achieved the aims of the course as a whole. In addition to the aims above, this course sets to achieve some objectives. Thus, after going through the course, you should be able to:

1. Describe the Expanded definitions of the Concepts and Terminologies of Health Management Information System.
2. Undertake Health Data Management to provide great health information capable of guiding the planners and stakeholders in health care delivery system.
3. Understand the foundational basis for the National Health Management Information System Policy and
4. Describe Project cycle, Monitoring tools and Evaluation of health projects and programmes
MPH 522: Disaster Management

CREDIT HOURS: 3
INTERNAL MARKS: 40

MARKS 100
EXTERNAL MARKS: 60

Objectives of the Course:
Disaster management due to nature, war on terror. The purpose of this course is to make participants aware of the special needs of children and families in disaster situations and understand public health approaches to address these needs. The learning objectives for this course are:

1) Identify the most important problems and priorities for the most vulnerable in disaster situations,
2) Identify the organizations most frequently involved in providing assistance in disaster situations and define their roles and strengths,
3) Describe the reasons why children are among the most vulnerable in disaster events,
4) Conduct emergency nutritional assessments of children,
5) Develop health profiles on displaced people and plan interventions based on results,
6) Define common psychosocial issues of affected people and the means to address them,
7) List basic points of international law including the Geneva Convention that relate to all persons involved in disaster situations,
8) List important security issues.
9) Appreciate ethical issues involved in disaster situations and employ skills of cross cultural communication,
10) Recognize and respond to special issues for children involved in biological and chemical terrorist attacks.

MPH 523: Infectious Diseases - Epidemiology

1. To provide an overview of the importance of and trends in non-communicable diseases globally, including low and middle income countries.
2. To generate an appreciation of the drivers of the burden of non-communicable diseases.
3. To identify methodological and conceptual issues in identifying causes of non-communicable diseases and evaluating preventive strategies.

OBJECTIVES

By the end of this module, students will have an appreciation of the growing global importance of non-communicable diseases across low middle and high income countries, the major determinants of non-communicable diseases and the key challenges faced by epidemiology and public health in studying and controlling these conditions.

Contents:
1. At the end of the module the student will be able to:
2. Define epidemiology and grasp its uses.
3. Define health and disease.
4. Be able to use the indicators for measuring health and disease.
5. Know the different types of epidemiological studies.
6. Grasp the concept of causation in epidemiology.
7. Identify the methods and guidelines for field investigations.
8. Know the communicable diseases general aspects.
9. Define surveillance, the effective system, its elements and limitations.
10. Specify the objectives of surveillance.
11. Identify diseases to be included in surveillance system.
12. Define data to be collected in the system.
13. Select the surveillance method to be used for different situations.
15. Collect, compile and tabulate data.
16. Analyze the data.
17. Investigate causation.
18. Take action.
19. Prepare and present reports.
20. Outbreak investigation, control and reporting.

**MPH 524: Survey Design and Data Collection**

- **CREDIT HOURS:** 3  
- **MARKS 100**  
- **INTERNAL MARKS:** 40  
- **EXTERNAL MARKS 60**

**Course Title:** Survey Design and Data Collection  
**Course Code:** MPH 521  
**Credits:** 3

**Objectives of the course:**
The objective of the course is to provide students with a basic understanding of how to develop a survey, including where to look for standardize measures, principles of items writing, revising poorly written questions, being familiar with the many different options available for survey administration (phone, mail, interview, computerized, online).

**Course contents**
8. Types and pros and cons of different surveys/ interviewing methods (semi-structured interviews, telephone, mail, computer direct interviews, email survey, web-based survey).
10. What questions to ask? Sources of standardized question, developing a construct table.
11. Writing the question and knowing a good one from a bad one.
12. questionnaire development (applied).

**Recommended Reading/Text**

**MPH 525 Written Thesis**

- **CREDIT HOURS:** 3  
- **MARKS 100**  
- **INTERNAL MARKS:** 40  
- **EXTERNAL MARKS 60**

**Objectives of the Course:**
The Master's Thesis represents the culminating experience required for the degree program and may take the form of a research thesis, an evaluation study, or an intervention study. Each student is required to formally present the research experience and research findings in a viva voce or thesis defense.

As a requirement of the program all students are required to develop a research protocol, collect and analyze data and write a thesis. This provides the students an opportunity to gain first-hand experience of conducting a complete research study. Thesis committees supervise the students' research projects. Each thesis committee comprises a thesis supervisor and at least one other faculty member from within the program or within the University. In order to conduct their MPH thesis research, students are encouraged to seek funds by applying to national and international funding agencies.