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**POSTGRADUATE INSTITUTE OF MEDICINE  
UNIVERSITY OF COLOMBO, SRI LANKA**



**PROSPECTUS**

**Master of Science (MSc)in  
Community Dentistry  
2013**

**BOARD OF STUDY  
IN  
COMMUNITY MEDICINE**

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## **Prospectus of MSc (Community Dentistry) Training Programme**

### **1. Background**

The Board of Study in Community Medicine (hereinafter referred to as BoS) of the *Postgraduate Institute of Medicine (PGIM)* is responsible for conducting the training program leading to the degree in MSc Community Dentistry.

This program has been conducted *since* 1991 by the Board of Study in Community Medicine which was one of the founder Boards of Study, of the Postgraduate Institute of Medicine (PGIM) when it was established in 1980. This is a one year program which covers areas relevant to the practice of Community Dentistry.

Community Dentistry is a discipline which has a special interest in promoting oral health in the population and is firmly rooted in the parent discipline of Public Health. It is a broad subject which seeks to increase the focus and understanding on factors that influence oral health in the population.

As the only population based dental specialty, dental public health practice requires different skills *to that of* clinical dental practice. The course is designed to produce dental public health practitioners with knowledge and skills required to carry out various public health activities associated with oral health.

Moreover the programme is closely integrated with the course in Community Medicine, *which is based on the application of principles of “Primary Health Care”*. Accordingly it deals with comprehensive health care services ranging from preventive, promotive, curative and rehabilitative services, thus addressing the needs of both ill and well populations at the grass root level in the community. Hence, *these practitioners will be able to work collaboratively as part of a multidisciplinary team of public health professionals to improve the health of the community*.

This Prospectus includes the expanded version of the module based curriculum and replaces the prospectus of 2009. It will be applicable for those following the MSc programme in 2014. *The trainees who will be selected for the MD training program shall follow the new MD Prospectus that will come into effect from 2015.*

### **2. Course outcomes**

The MSc program in Community Dentistry offers training in the principles and practice of public health including dental public health to equip trainees with knowledge, attitudes and skills that enable them to function as an efficient and effective dental public health practitioner within the framework and the needs of the community dental services in Sri Lanka.

#### **On completion of the MSc in Community Dentistry, trainees should be able to:**

- A. Apply principles of public health including dental public health in the day-to-day practice
- B. Promote community participation and inter-sectoral coordination to ensure effective implementation of oral health programs.
- C. Plan, implement, monitor and evaluate public health programs for prevention and control of oral diseases and promotion of oral health,
- D. Monitor and evaluate oral health care delivery systems in Sri Lanka
- E. Collaborate with and lend support to Community Medicine counterparts as required in all areas of

health promotion

- F. Successfully carry-out research to define and describe oral health problems
- G. Critically evaluate research communications
- H. Communicate effectively at individual and community level
- I. Enhance personal and professional development of highest ethical standards

### **3. Eligibility criteria**

- A. A dental degree registered with the Sri Lanka Medical Council.
- B. Satisfactory completion of one year of dental practice or teaching in a university/public/private sector institution in Sri Lanka acceptable to the PGIM.
- C. The applicants should satisfy the criteria prescribed in paragraphs (A) and (B) as at the date of closure of applications.
- D. Comply with any other PGIM regulations.

### **4. Selection Examination**

The format of the Selection Examination is described below. The subject areas covered will be based on the undergraduate Community Dentistry syllabus which shall include Basic Epidemiology, Statistics, Demography, Oral Disease Prevention, Oral Health Care Delivery, Health Promotion and Health Education.

#### ***4.1. Format of the Examination***

The examination shall *consist of one (1) written paper with five (5) structured* essay type questions of three (3) hours duration.

*Each question will be independently marked out of 100 by two examiners. The mark for each question will be the average of the marks given by the two examiners based on the predetermined marking scheme for the expected answers, provided the difference in the marks assigned by the two examiners do not exceed 15%. If the difference between the marks assigned is more than 15% for any question, the two examiners will re-correct such questions and arrive at an agreed mark with a difference of 15% or less.*

#### ***4.2. Requirement to pass the Examination***

Candidates who obtain an overall mark of 50% or more in the above examination will be eligible for selection to follow the programme.

The results of the “Selection Examination” will be valid only for the MSc. course that immediately follows the said “Selection Examination”.

#### ***4.3. Number to be selected for the programme***

The number to be admitted from among the candidates who shall pass the “Selection Examination” will depend on the requirements of the Ministry of Health and the training facilities available, as determined by the BoS / Board of Management. The number to be admitted each year from different sectors shall be indicated in the circular/news paper advertisement calling for applications. The number may vary from year to year. *The predetermined number* will be selected based on merit and other relevant regulations.

## 5. Duration of the training

*The duration of training shall be one year (twelve calendar months) on full time basis with 65 credits points.*

## 6. Format of the training program

*The MSc Community Medicine training program shall consist of:*

- *Lectures*
- *Practicals*
- *A research project leading to a dissertation.*

*Practical training shall be field and laboratory based. The teaching learning settings shall include class room, Information Technology laboratory and community and occupational health settings.*

*The teaching learning methods shall include didactic lectures, small group discussions, practical sessions, computer based learning, clinical skills for community oriented patient care and performance of selected clinical procedures, and community based learning.*

*The training programme is divided in to three terms and at the end of each term the MSc in Community Medicine in-course assessments will be held. After each term, an in-course assessment will be held to cover the relevant modules.*

*It is mandatory for all trainees to have 80% attendance for each module to be eligible to sit the relevant in-course assessments. If failed to do so he/she should repeat the relevant module/s with the next batch and fulfill the 80% requirement to be eligible to sit for the relevant in course assessment/s and MSc Examination.*

## 7. Curriculum and Credit Calculation

*The curriculum shall consist of the 18 modules listed in **Table 1**.*

*The detailed curriculum is described in **Annex 1**.*

**Table 1: Individual modules with assigned credit points**

Number	Module	Lecture hours	Other Methods - hours		Credits**
			Practical (PR)	Clinical	
			Tutorials (T)	Field	
			St. Pres (SP)*		
MSc/CD-01	Basic Statistics	39	T = 5	-	3
MSc/CD-02	Basic Epidemiology	30	T = 6	-	2
MSc/CD-03	Demography & Health Implications of Ageing				
	1. Demography	15	SP =2	-	2
	2. Health Implications of Ageing	11	-	-	
MSc/CD-04	Applied Epidemiology				
	1.Disease Surveillance & Prevention	39	T + SP = 6	6	4
	2.Special Campaigns	11	-	-	
	3.Pharmacoepidemiology	12	-	-	
MSc/CD-05	Environmental Health & Disaster Management				
	1.Environmental Health	23	-	11	2
	2.Disaster Management	9	-	-	
MSc/CD-06	Occupational Health	47	P+ SP = 9	-	3
MSc/CD-07	Maternal & Child Health	99	SP = 15	12	7
MSc/CD-08	Nutrition	26	SP = 6	-	2
MSc/CD-09	Non-Communicable Diseases	27	SP = 3	-	2
MSc/CD-10	General Administration & Public Health Management				
	1.Healthcare delivery system	5	-	-	7
	2.General Administration	15	-	-	
	3.Management	15	-	-	
	4.Health Information System	3	-	-	
	5. Planning	11	P+SP = 20	-	
	6.Global Health	5	-	-	
	7.Public Health Policy	9	SP = 20	-	
	8.Health, Human Rights & Ethics	12	SP = 9	-	
9.Health Economics	9	-	-		
MSc/CD-11	Social Welfare & Rehabilitation Services	12	-	6	1
MSc/CD-12	Health Promotion	42	SP = 2	-	3
MSc/CD-13	Mental Health	18	SP = 5	-	1
MSc/CD-14	Personal & Professional Development	12	SP = 5	-	1
MSc/CD-15	Medical Sociology & Anthropology	11	-	-	1
MSc/CD-16	Dental Public Health	3	-	25	3
MSc/CD-17	Research Methodology	36	SP + PR = 27	-	3
MSc/CD-18	Field Training in Practical Skills	-	-	<b>80</b>	2
	Dissertation***				15
	Total	637.5	140	140	64
	Total		907.5		64

\* *St. Pres – Student Presentations*

\*\* *Assignment of credit points :Lectures =15 hours; Practicals + Tutorials/ Seminars/ Small Group Discussions = 30 hours; Field Work & Clinical = 45 hours*

\*\*\* *Includes conducting literature review, formulating proposal, preparation of instruments, field work including data collection, data entry, data analysis & report writing.*

## **8. Research leading to a dissertation**

The objective of the research component is to develop knowledge and skills of the trainee to plan and conduct a research project using scientific methods, analyse data using basic statistical methods, derive appropriate conclusions and recommendations and to present the findings in a scientific report based on the time frame available.

The scope of the research project is defined as “containing research material adequate to publish one full journal article”. The module on “Research Methodology” (MSc/CM- 17) will be conducted during the first term to introduce the trainees to basic principles of research. The research project should **only be based on “quantitative research”** and the objectives of the research project should be drafted to reflect the same. However, “qualitative research” may be used as a means of complementing “quantitative research” (Eg: in questionnaire development if time permits). The **data collected** should be “**primary data**” but “secondary data” may be used as a means of supporting “primary data” (Eg: clinical data).

Trainees have to identify a supervisor to guide him/ her, whose name should be submitted to the BoS on a specified date for approval after the completion of the “Research Methodology” module (with the tentative title of the proposed research project). The supervisor should officially confirm acceptance of the appointment using the form provided by the PGIM (**Annex II**). The guidelines for supervisors are available in **Annex III**.

During the “Research Methodology” module, the trainee shall be assisted in identifying a research topic and the development of the research proposal (**Annex IV**). The trainee shall obtain the guidance of the supervisor for developing the research proposal. He/she shall obtain the approval of the supervisor (*refer “Research Project: Time line” -Annex V*) prior to submission of the research proposal to the BOS for approval on or before the specified date.

The research proposals shall be reviewed by two independent members of the subcommittee appointed by the BoS(**ANNEX VI**). Based on the decision of the reviewers, the subcommittee shall make recommendations to the BoS regarding approval/ resubmission of the research proposal. Major revisions related to “formulation of objectives” and “methodological flaws’ shall be the decisive factors in relation to the need for resubmission of the research proposal. Following the approval of the BoS, the trainee shall apply for ethical clearance from the Ethics Review Committee of the PGIM or Ethics committee of Faculty of Medicine of any university. The trainee should be ready to commence data collection soon after ethical clearance is received, having completed by this time the required preliminaries. The details of the subsequent stages up to the preparation of the Dissertation is given in the “*Research Project: Time line*”(Annex V).

### **8.1. Writing the dissertation**

Both the supervisor and the trainee should be familiar with the document titled “Guidelines for Dissertation Writing” (**Annex VII**) and refer to it from the time of preparing the proposal until submission of the dissertation.

The dissertation shall be one component of the MSc Examination and it will be assessed as described in Section 13.0 included below with reference to the guidelines issued (**Annex VIII**).

## 9. Log book/ Portfolio

Log book

1. The “log book” to be completed in relation to the module:  
MSc/CD-18 Field Training in Clinical and Practical Skills (*Annex IX*)

Portfolio

1. MSc/CD-18 Field Training in Clinical & Practical Skills - reflective writing to be included on three procedural skills (*Annex X*).
2. Evidence related to continuing professional development (CPD) [*Annex X*].

The purpose of the Portfolio is to document and reflect on his/her training experience with regard to clinical procedures that is pertinent to field practice. This shall enable him/her to identify and correct any weak aspects in the competencies expected, and also to recognize and analyze any significant clinical events experienced, which will help to change their practices to adopt better options based on the lessons learnt.

The continuing professional development should take place from the time of entry to the training program up to the end of third term and the evidence of such activities should be included in the portfolio. It is the responsibility of the trainee to submit the Portfolio for evaluation by the BoS two weeks after the completion of Clinical Skills on Community Care module. ***The acceptance of the Portfolio is a prerequisite to be eligible to sit for the MSc Examination.***

## 10. Identification of trainers

Lecturers, module coordinators and supervisors shall be recommended by the Board of Study and approved by the Board of Management. The Examiners shall be appointed by the Senate of the University of Colombo on the recommendation of the Board of Study and approved by the Board of Management.

Trainers shall consist of Board Certified specialists in Community Medicine, Community Dentistry and experts in the non-medical disciplines.

## 11. Assessments

**Assessments shall consist of:**

- a. Formative Assessments: In-course assessments
- b. Summative Assessments: MSc in Community Medicine Examination

## 12. In-course assessments (20% of the marks of final MSc Examination)

*In-course assessments shall consist of three assignments based either on a) a case study or b) an essay. The objective of the assignment (based on the overall objectives of the modules covered) shall be stated. It should be structured to suit the objective indicated.*

All three assignments will be held at the end of each term. Trainees shall be allowed two weeks to complete and submit the assignments. Late submissions shall receive only 50% of the marks obtained. Extensions will only be given if accompanied by written proof (eg: a medical certificate) for the need and the time extended will be equivalent to the duration of leave granted.

The assignments shall be an individually performed task and in the event any two or more candidates being found guilty of copying, all such candidates shall receive a zero mark.

### **12.1. Guidelines on submission of assignments -**

The assignments should be submitted on A4 size paper and the number of words should not exceed 750. The document should be formatted as given below:

Left margin – 25 mm

Top, Right & Bottom margins – 15 mm

Font - Times New Roman

Font Size - 12

Spacing -1.5 lines

### **12.2. Assessment of assignments**

Each assignment shall be marked out of 100 by two independent examiners. Total marks allocated for the three assignments shall be 300 marks. This will be converted to the final 20% of the total MSc Examination marks.

## **13. Summative Assessments: MSc in Community Dentistry Examination**

### **13.1. Appointment of examiners**

The examiners shall be recommended by the Board of Study through the Board of Management for approval by the Senate / Council of the University of Colombo

### **13.2. Eligibility criteria to appear for the examination**

- a. Satisfactory completion of one year of training
- b. Attendance of more than 80% for each of the modules
- c. Satisfactory completion of Log Book and acceptance by the BOS
- d. A duly completed Portfolio which is acceptable to the BOS
- e. Completion of all the assignments

### **13.3. Format of the MSc examination**

The examination shall consist of the following components:

#### **C1. Theory papers**

There shall be **two theory papers**. The duration of each paper shall be three (3) hours and each paper shall consist of six (6) structured essay questions.

Paper 1 [20%] –

**Paper 1 [20%]**– *Basic Statistics, Basic Epidemiology, Demography and Ageing, Environmental Health*

*& Disaster Management, Occupational Health, and Maternal and Child Health, Nutrition*

**Paper II [20%]** – *Applied Epidemiology, Non Communicable Diseases, Health Promotion, , Mental Health, General Administration and Public Health Management, Personal and Professional Development, Social Welfare and Rehabilitation Services, Medical Sociology and Anthropology, Dental Public Health*

**Assessment:**

Each question will be independently marked out of 100 by two examiners. *The mark for each question will be the average of the two marks given by the examiners based on the predetermined marking scheme for the expected answers, provided the difference in the marks assigned by the two examiners do not exceed 15%. If the difference between the marks assigned is more than 15% for any question, the two examiners will re-correct such questions and arrive at an agreed mark with a difference of 15% or less.*

**C2 Spots examination (15%):** will consist of 10 spots of 10 minutes duration. Each spot will have 8-10 structured questions. *The spots will be based on the content covered under Dental Public Health*

**C3. Dissertation (25%)**

*The dissertation shall be assessed by two examiners independently. The marks shall be awarded based on the format described in Annex VI. The final mark is the the average of the marks assigned by the two examiners.*

**C4. In-course Assessments (Refer Section 12.0) [20%]**

**13.4. Overall marking Scheme for the MSc Examination:**

Components	Marks Assigned
Theory (2 papers)	400 (40%)
Spots	150 (15%)
Dissertation	250 (25%)
In-course assessment	200 (20%)
Total	1000 (100%)

**13.5. Requirements to Pass the MSc Examination**

A candidate should obtain an overall aggregate of not less than 50% or more and

A minimum mark as specified below for *three of the four* components:

Components	Minimum Pass Mark
Theory (2 papers)	200.0 (50%)
Spots	67.5 (45%)
Dissertation	125.0 (50%)
In-course assessment	-
Aggregate	500.0 (50%)

**13.6. Failed categories**

**a. Passes the dissertation but fails in theory and spot examination**

If a candidate fails the MSc examination either due to failure to obtain an overall aggregate of 50% or minimum marks in one or more of the two components namely theory and spots , but has

obtained 50% or more for the dissertation, the candidate will be exempted from submitting a dissertation at a subsequent examination. Such a candidate will be assessed only in the theory, and spots components at the subsequent examination. Marks obtained by the candidate for the dissertation and in-course assessments at the previous examination will be *carried forward* for computation of the aggregate mark.

The candidate with the guidance and advice of the supervisor may resubmit the dissertation within three months after carrying out the corrections recommended by the examiners, as well as any other corrections deemed necessary to improve the quality of the dissertation.

**b. Passes theory and spots examination with an overall aggregate of 50% but fails the dissertation**

- i. **Dissertation with marks between 45% - 49% (*Dissertation which has fulfilled most criteria to pass but with minor revisions related to the presentation of the dissertation*) -**
- ii. Dissertation - The candidate with the guidance and advice of the supervisor, shall collect new data on the same topic and rewrite **Dissertation with marks between 40% and 44% (*Satisfactory research methods but with major revisions related to the presentation of the dissertation*) -**

Theory and Spots components – The candidate is exempted from sitting the examination at the subsequent attempt.

Dissertation - The candidate with the guidance and advice of the supervisor, shall use the same data and rewrite and resubmit the dissertation after carrying out corrections recommended by the examiners, as well as any other corrections deemed necessary to improve the quality of the dissertation.

- iii. **Dissertation with marks between 30% and 39% (*Satisfactory study design but with flaws in data collection with or without major revisions related to the presentation of the dissertation*) -**

Theory and Spots components - The candidate is exempted from *sitting these two components* at the subsequent attempt.

And resubmit the dissertation after carrying out corrections as recommended by the examiners, as well as any other corrections deemed necessary to improve the quality of the dissertation

**Resubmitted dissertations as stipulated in Sections 13.5/b/ ii& iii shall be assessed only at a subsequent main MSc examination.**

***The candidates who are unable to obtain 50% of marks for the Resubmitted Dissertations stipulated under Sections 13.6/b/ i, ii & iii, will be considered as failing the Dissertation. The resubmissions there after (third attempt onwards) shall be assessed only at a subsequent main MSc examination.***

- c. ***Dissertation with marks less than 30% (Major methodological flaws with or without major revisions related to the presentation of the dissertation) -***

*Irrespective of the marks obtained for theory and spots components, the candidate shall fail the full MSc examination.*

Theory and Spots components – The candidate shall sit these two components at a subsequent MSc examination.

Dissertation - The candidate shall submit a new dissertation on a different topic at a subsequent main MSc examination.

**The in-course assessment marks shall be carried forward *when computing* the final result at the subsequent attempts.**

**13.7. *Postponement of sitting the examination***

*Candidates who, with the approval of the Board of Study have obtained a deferment for theory, spots, and oral components of a given MSc examination, shall submit the dissertation on the stipulated date for the examination from which he/she was exempted. In the case of an illness (supported by a medical certificate), the candidate shall be granted additional time equivalent to the duration of approved medical leave, to complete the dissertation.*

**13.8. *Number of attempts***

A candidate is permitted up to a maximum of six (6) attempts within a period of eight years from the date of the first attempt.

**13.9. *Award of the degree***

Candidates successful at the examination shall be awarded the degree of *MSc (Community Dentistry)*.

**14. *General regulations***

Candidates should also follow all the General Regulations of the PGIM regarding permitted leave and other matters in addition to the rules and regulations specified in this prospectus.

**15. *Recommended reading: Refer Annex 1***

**Annex I**

**Curriculum**

*MSc Community Dentistry*

**Basic Statistics**

**MSc/CD-01**

**Competencies:**

1. Application of knowledge on basic statistics for analysis and drawing inferences from public health data relevant to day to day practice
2. Drawing inferences from available information to practice evidence based public health

**Overall Objectives:**

To be able to

1. describe a data set
2. summarize data
3. apply basic inferential statistical methods and draw conclusions from such analysis
4. present the data in a scientific manner
5. critically interpret the statistical findings which appear in the papers published in medical journals
6. act as an interpreter between a clinical researcher and a statistician
7. able to discuss with a statistician problems in medical research and enlist their help

Domain	Content	Mode of Delivery	Time – hrs
Knowledge	<p><b>1.Introduction to Statistics:</b></p> <ul style="list-style-type: none"> <li>• Uses of statistics</li> <li>• Types of data: Qualitative vs Quantitative, Discret vs Continuos</li> <li>• Scales of measurement: Nominal, Ordinal, Interval &amp; Ratio</li> <li>• Introduction to descriptive and inferential statistics</li> </ul>	Lecture	3.0
Knowledge	<p><b>2.Describing data:</b></p> <ul style="list-style-type: none"> <li>• Measures of central tendency:</li> <li>• Mean, Mode &amp; Median</li> <li>• Measures of dispersion: range, inter-quartile range, variance , standard deviation standard error, coefficient of variation</li> <li>• Normal distribution &amp; characteristics of a skewed distribution</li> <li>• Graphical presentation of data: Histogram, Bar chart, Stem and leaf plot, Box plot, Scatter plot, Line graph, Normal probability plot</li> </ul>	Lecture	3.0
Knowledge	<p><b>3.Probability</b></p> <ul style="list-style-type: none"> <li>• Probability and Normal Distribution Laws of probability; Addition &amp; multiplication laws,</li> <li>• Normal distribution: features</li> <li>• Convert raw scores into Z scores</li> <li>• Determine probabilities from standard normal distribution</li> <li>• Determine the area of distribution between two values - normal distribution curve, reference range</li> <li>• Binomial distribution</li> <li>• Poisson distribution</li> </ul>	Lecture	6.0
Skills		Tutorial	1.5
Knowledge	<p><b>4.Sampling techniques</b></p> <ul style="list-style-type: none"> <li>• Probability and non-probability sampling</li> <li>• Advantages &amp; disadvantages of probability and non- probability sampling techniques: Simple random, Systematic, Stratified, Multistage, Cluster Sampling, Probability proportional to size</li> <li>• Differentiate between sampling error and bias,</li> <li>• Sample size calculations for cross-sectional, case-control and cohort studies</li> </ul>	Lecture	3.0
Knowledge	<p><b>5.Estimation of population parameters</b></p> <ul style="list-style-type: none"> <li>• Z –distribution, t –distribution</li> <li>• Standard error calculations</li> <li>• Confidence intervals for mean and percentage</li> <li>• Confidence intervals for the difference between two means for unpaired and paired data</li> <li>• Confidence intervals for difference between two proportions</li> </ul>	Lecture	6.0

Knowledge	<b>6.Hypothesis testing:</b> <ul style="list-style-type: none"> <li>• Type I and II errors &amp; Power</li> <li>• Null hypothesis, Alternate hypothesis &amp; Steps in hypothesis testing</li> <li>• Definition of P value &amp; Interpretation of P value</li> <li>• One &amp; Two tailed tests</li> <li>• SND test for means and proportions</li> <li>• Applications, Calculations, Interpretation &amp; Testing of assumptions</li> </ul>	Lecture	3.0
Skills		Tutorial	1.5
Knowledge	<b>7.T Tests</b> <ul style="list-style-type: none"> <li>• Students t test, paired &amp; two sample t tests</li> <li>• Applications, Calculations, Interpretation, Testing of assumptions</li> </ul>	Lecture	3.0
Knowledge	<b>8.Chi square test</b> <ul style="list-style-type: none"> <li>• Applications, Calculations, Interpretation &amp; Testing of assumptions</li> <li>• Alternative tests: Fishers exact test</li> <li>• Matched analysis: McNemars test</li> </ul>	Lecture	3.0
Knowledge	<b>9.Analysis of variance (ANOVA)</b> <ul style="list-style-type: none"> <li>• One-way ANOVA: Applications, Calculations &amp; Interpretation</li> <li>• Correlation: Applications, Calculations, Testing of assumptions</li> </ul>	Lecture	3.0
Knowledge	<b>10.Simple linear Regression</b> <ul style="list-style-type: none"> <li>• Uses of simple linear regression Applications,</li> <li>• Calculation of beta coefficient &amp; intercept</li> <li>• Regression equation, regression curve</li> <li>• Interpretation of a regression table</li> <li>• Uses of logistic regression</li> </ul>	Lecture	3.0
Knowledge	<b>11. Non- parametric tests</b> <ul style="list-style-type: none"> <li>• Applications, Calculations &amp; Interpretation of</li> <li>• Mann-Whitney U-test, Wilcoxon sign rank test, KruskalWallis H test &amp;</li> <li>• Spearman's rank correlation</li> </ul>	Lecture	3.0
		Tutorial	1.5
<b>Assessment = End of term combined assignment</b>			
<b>Number of hours: Lectures = 39.0 hours; Tutorials = 4.5 hours</b>			
<b>Credit points = 2.6 +0.15 = 2.8</b>			

**Reading Material:**

1. Basic Statistical Analysis. Rischard C. Sprinthall
2. Medical Statistics. Betty R Kirkwood and Jonathan A. C. Sterne
3. A Short Book of Medical Statistics. Sir Austin Bradford Hill
4. Bradford Hill’s Principles of Medical Statistics. Austin Bradford Hill and I. D. Hill
5. Using and Understanding Medical Statistics. David E. Matthews and Vernon T. Farewell
6. Biostatistical Analysis. J.H. Zar

**Basic Epidemiology**  
**MSc/CD-02**

**Competencies**

1. Application of basic epidemiological principles in day to day practice as a middle level manager
2. Interpretation and application of scientific information with regard to evidence based public health practice
3. Utilization of epidemiological tools to analyze and evaluate the strengths and weaknesses of assertions in the scientific literature

**Objectives**

1. describe the concepts and scope of epidemiology
2. collect and analyse community health data
3. discuss probable sources of error and methods of minimizing errors in such data
4. describe and be able to compute measures of disease frequency
5. describe and calculate measures of risk of exposure
6. state the principles underlying and the application of different study designs
7. describe the concepts of measurement of test performance of screening tests
8. be able to plan and conduct an epidemiological study and draw appropriate conclusions from the results of the study
9. describe the basic epidemiological concepts in establishing causation

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time - hrs</b>
Knowledge	<p><b>1.Introduction to epidemiology</b></p> <ul style="list-style-type: none"> <li>• Definition of the term “epidemiology”</li> <li>• Epidemiologic approach</li> <li>• Descriptive epidemiology in terms of</li> <li>• time, place and person</li> <li>• Summary of epidemiology - 5Ws</li> <li>• History – Evolution of epidemiology</li> <li>• Natural experiments: John Snow &amp; contribution to epidemiology</li> <li>• Uses of epidemiology</li> </ul>	Lecture	3.0

	<p><b>2.Measures of morbidity</b></p> <ul style="list-style-type: none"> <li>• Measurement tools in epidemiology: Rate, Proportion and Ratio</li> <li>• Incidence rate: Cumulative incidence, Incidence density</li> <li>• Special incidence rates: Attack rate &amp; Secondary attack rate</li> <li>• Uses of incidence</li> <li>• Prevalence Rate: Point prevalence &amp; Period prevalence</li> <li>• Relationship between incidence and prevalence</li> <li>• Uses of prevalence</li> </ul>	Lecture	1.5
Knowledge	<p><b>3.Measures of mortality</b></p> <ul style="list-style-type: none"> <li>• Crude death rate</li> <li>• Specific death rates: age, sex &amp; cause</li> <li>• Standardization of death rates:</li> <li>• Direct</li> <li>• Indirect – Standardized Mortality Ratio (SMR)</li> <li>• Proportionate Mortality &amp; Proportionate Mortality Ratio</li> <li>• Survival rates: five year survival</li> </ul>	Lecture	1.5
		Tutorial	1.5
	<p><b>4.Epidemiological approaches; descriptive and analytical</b></p> <ul style="list-style-type: none"> <li>• Classification of study designs :</li> <li>• Observational vs Experimental</li> <li>• Descriptive vs Analytical</li> </ul>	Lecture	1.5
	<ul style="list-style-type: none"> <li>• Descriptive Studies: Case reports, Case series, Cross sectional, Correlational / Ecological</li> <li>• Limitations and Uses</li> </ul>	Lecture	1.5
	<p><b>5.Cohort studies</b></p> <ul style="list-style-type: none"> <li>• Meaning of word cohort</li> <li>• Definition of exposure / non exposure</li> <li>• Selection of study groups &amp; control groups – Internal &amp; External</li> <li>• Follow up &amp; Ascertainment of outcome/ disease status</li> <li>• Analysis: Relative Risk (RR), Attributable Risk (AR), Attributable Risk Percent</li> <li>• Establishment of chance /significance of effect measures</li> <li>• Impact of RR &amp; AR on common/ rare diseases</li> <li>• Interpretation / application of effect measures</li> <li>• Advantages &amp; Disadvantages</li> </ul>	Lecture	1.5
Skills		Tutorial	1.5
Knowledge	<p><b>6.Case Control studies</b></p> <ul style="list-style-type: none"> <li>• Selection of study groups</li> <li>• Sources of study group members</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Selection of control group: traditional, risk set</li> <li>• Sources of control group</li> <li>• Advantage &amp; disadvantages of selection from each source</li> <li>• Use of multiple controls</li> <li>• Matching of cases &amp; controls / confounding</li> <li>• Other methods of control for confounding</li> <li>• Ascertainment of exposure</li> <li>• Bias – recall / interviewer</li> <li>• Analysis: Odds Ratio (OR)</li> <li>• Establishment of chance /significance of effect measures</li> <li>• Interpretation of effect measures</li> <li>• Advantages &amp; Disadvantages</li> </ul>		
	<p><b>7.Cross sectional analytical studies</b></p> <ul style="list-style-type: none"> <li>• Selection of study groups</li> <li>• Effect measures: OR &amp; prevalence rate ratio</li> <li>• Uses &amp; Limitations</li> </ul>	Lecture	1.5
	<p><b>8.Experimental studies</b></p> <ul style="list-style-type: none"> <li>• Difference between experimental and quarsi-experimental studies</li> <li>• Community trials / Drug trials</li> <li>• Cluster randomized trials</li> <li>• Before and after designs</li> <li>• Pararall group designs</li> <li>• Cross over designs</li> <li>• Phase I, II, III, and VI trials</li> <li>• Selection of experimental group</li> <li>• Selection of control group/s</li> <li>• Application of simple randomization – advantages /disadvantages</li> <li>• Concealment of allocation</li> <li>• Single / double blinding</li> <li>• Intention to treat analysis</li> <li>• Relevant effect measures: RR, Risk Reduction</li> <li>• Relative Risk Reduction &amp; Number Needed to Treat &amp; Harm</li> </ul>	Lecture	3.0
Knowledge	<p><b>9.Types of errors</b></p> <ul style="list-style-type: none"> <li>• Random error – definition , precision, measures of overcoming random errors</li> <li>• Systematic errors – definition,</li> <li>• Bias :</li> <li>• Selection – volunteering, non participation, detection, Neyman fallacy, Berksons, loss to follow up</li> </ul>	Lecture	3.0

	<ul style="list-style-type: none"> <li>• Information –Differential &amp; Non Differential (Basics)</li> <li>• Recall &amp; Interviewer bias</li> <li>• Confounding: definition</li> <li>• Measures to overcome [Basics]:</li> <li>• Selection stage - matching, restriction &amp; randomization</li> <li>• Analysis stage- stratified and multivariate analysis</li> </ul>		
	<p><b>10.Screening tests</b></p> <ul style="list-style-type: none"> <li>• Criteria to decide the need for screening</li> <li>• Measures of test performance : Sensitivity, Specificity, Predictive values positive &amp; negative : application to population level</li> <li>• Bias related to evaluation of screening programs</li> <li>• ROC curves</li> <li>• Diagnostic tests:</li> <li>• Difference between Screening &amp; Diagnostic tests</li> <li>• Measures of test performance</li> </ul>	Lecture	3.0
	<p><b>11.Quality of data</b></p> <ul style="list-style-type: none"> <li>• Reliability –definition</li> <li>• Types of assessment: Test re -test reliability</li> <li>• Analysis: Percent agreement , Kappa coefficient and interpretation, Altman –Bland plot – quantitative data</li> <li>• Validity – definition</li> <li>• Types – face, content, consensual, criterion and construct [basics]</li> </ul>	Lecture	1.5
		Tutorial	1.5
	<p><b>12.Effect measures</b></p> <ul style="list-style-type: none"> <li>• RR, OR, AR, ARP, SMR, PMR, Difference of means: an overview</li> <li>• Establishment of chance /significance of effect measures</li> <li>• Impact of RR &amp; AR on common/ rare diseases</li> <li>• Interpretation / application of effect measures</li> <li>• Advantages &amp; Disadvantages</li> </ul>	Lecture	1.5
	<p><b>13.Causality</b></p> <ul style="list-style-type: none"> <li>• Relationship between association and causation</li> <li>• Causal criteria</li> </ul>	Lecture	1.5
Knowledge	<p><b>14.Evidence based medicine (EBM)</b></p> <ul style="list-style-type: none"> <li>• Definition of EBM</li> <li>• Basics of a systematic review and Meta-analysis</li> <li>• Advantages of systematic review and Meta-analysis</li> <li>• Steps involved in designing a systematic review</li> </ul> <p>Interpretation of a forest plot</p>	Lecture	3.0

		Tutorial	1.5
<b>Assessment = End of term assignment</b>			
<b>Number of hours: Lectures = 28.5 hours; Tutorials = 6.0 hours</b>			
<b>Credit points = 1.9 +0.2 = 2.1</b>			

**Reading Material:**

1. Epidemiology in Medicine. Charles H. Hennekens and Julie E. Buring.
2. Epidemiology-An introduction. Kenneth J. Rothman
3. Oxford Text Book of Public Health. Volume 2. Eds: R. Detels, R. Beaglehole, M.A. Lasang and M Gulliford
4. David A Grimes & Kenneth F Schulz. Epidemiology Series. An overview of clinical research: the lay of the land. Lancet 2002; 359: 57-61.
5. Robyn M. Lucas & Anthony J. McMichael. Association of causation: evaluating links between “environment and disease”. Public Health Classics. Bulletin of the World Health Organization 2005 October; 83(10): 792-795.
6. David L. Sackett. Bias in Analytical Research. J. Chron. Dis. 1979; 32: 51-63.

**Demography & Health Implications of Ageing**  
**MSc/CD-03**

**Component 1: Demography**

**Competencies:**

1. Application of knowledge on the range of demographic techniques available to collect, analyze and interpret population data at both national and sub-national levels.
2. Application of knowledge to describe population health and development interactions into health and population programs.

**Objectives:**

To be able to

1. describe sources of population data
2. describe the dynamics of population change
3. discuss reasons for changes in demographic rates and population distribution
4. demonstrate knowledge of demographic behaviour in social, economic and policy contexts

Domain	Content	Method of delivery	Time (hours)
Knowledge	<b>1.Introduction to Demography</b> <ul style="list-style-type: none"> <li>• Concepts and definitions</li> <li>• Demography and population studies</li> <li>• Interdisciplinary nature</li> </ul>	Lecture	1.5
	<b>2.Sources of data and basic measures of demography</b> <ul style="list-style-type: none"> <li>• Population censuses</li> <li>• Sample surveys</li> <li>• Vital statistics and other sources</li> <li>• Demographic data and their quality</li> <li>• Period and cohort measures</li> </ul>	Lecture	3.0
	<b>3.Fertility measures and transition</b> <ul style="list-style-type: none"> <li>• CBR, GFR, ASFR, TFR, GRR, NRR</li> <li>• Replacement fertility</li> <li>• Causes of fertility decline</li> <li>• Marriage</li> <li>• Contraception</li> <li>• Abortion</li> <li>• Implications</li> </ul>	Lecture	3.0
Knowledge	<b>4.Standardization and life table construction</b> <ul style="list-style-type: none"> <li>• Direct Standardization</li> </ul>	Lecture	3.0

	<ul style="list-style-type: none"> <li>• Indirect Standardization</li> <li>• Cohort and period life tables</li> <li>• Construction of life table</li> </ul>		
Knowledge	<b>5.Mortality change and contributory factors</b> <ul style="list-style-type: none"> <li>• Improvement in life expectancy</li> <li>• Factors contributed for the mortality decline</li> <li>• Socio-economic and cultural</li> <li>• Health infrastructure</li> <li>• Other</li> </ul>	Lecture	1.5
Knowledge	<b>6.Migration and urbanization</b> <ul style="list-style-type: none"> <li>• Internal</li> <li>• International</li> <li>• Components of urban growth</li> </ul>	Lecture	1.5
Knowledge	<b>7.Population estimates and projections</b> <ul style="list-style-type: none"> <li>• Exponential model</li> <li>• Cohort component method</li> <li>• Projected population</li> </ul>	Lecture	1.5
	<b>8.Population change and health implications</b>	SGD*	1.5
<b>Assessment = End of term assignment</b>			
<b>Number of hours: Lectures = 15.0 hours; *Small Group Discussion = 1.5 hours</b>			
<b>Credit points = 1.0 +0.05 = 1.1</b>			

**Reading Material:**

**Reading Material:**

1. Department Of Census And Statistics. (Latest Version). *Sri Lanka Demographic And Health Survey* (Latest Report Available).
2. The World Bank (2012). . (2012). *Sri Lanka's Demographic Transition: Facing the Challenges of an Aging Population with Few Resources.* . Available: <http://www.worldbank.org/en/news/feature/2012/09/29/sri-lanka-demographic-transition>. Last accessed 6th June 2013.
3. Attanayake, Chandra . (1984). *The Theory of demographic transition and Sri Lanka's demographic experience.* Journal of Arts Science and Letters Special Silver Jubilee Issue February 1984.. Available: [http://dl.sjp.ac.lk/dspace/handle/123456789/671?mode=full&submit\\_simple>Show+full+item+record](http://dl.sjp.ac.lk/dspace/handle/123456789/671?mode=full&submit_simple>Show+full+item+record). Last accessed 6th June 2013.
4. California Department of Public Health. *Population Fertility: Measurement and Limitations.* Available: . [http://www.ehib.org/page.jsp?page\\_key=110](http://www.ehib.org/page.jsp?page_key=110). Last accessed 6th June 2013.

**Component 2: Health Implications of Ageing**

**Competencies:**

1. Initiation of measures to promote healthy ageing
2. Creation of age friendly environments
3. Provision of age friendly healthcare and social services

**Objectives:**

To be able to:

1. to discuss demographic transition in Sri Lanka with implications to ageing
2. to describe epidemiology of physical and psychological health issues among elderly
3. to discuss strategies to promote healthy ageing
4. to describe services related to health and social welfare of the elderly

Domain	Content	Mode of Delivery	Time – hrs
Knowledge	<b>1. An overview of ageing</b> <ul style="list-style-type: none"> <li>• Demographic and health implications of ageing</li> <li>• Overview of the services for elderly</li> </ul>	Lecture	1.5
	<b>2. Healthy ageing</b> <ul style="list-style-type: none"> <li>• Concepts related to health ageing</li> <li>• Assessing ‘Healthy ageing’ and its issues</li> </ul>	Lecture	1.5
	<b>3. Physical health issues among elderly</b> <ul style="list-style-type: none"> <li>• Priority physical health issues among elders in the region and in Sri Lanka</li> <li>• Issues related to assessing physical health issues of elderly</li> <li>• Promoting physical health among elders</li> </ul>	Lecture	1.5
	<b>4. Psychological health issues among elderly</b> <ul style="list-style-type: none"> <li>• Priority psychological health issues among elders in the region and in Sri Lanka</li> <li>• Issues related to assessing psychological health issues of elderly</li> <li>• Promoting psychological health among elders</li> </ul>	Lecture	1.5
	<b>5. Social health issues among elderly and social services available for elderly</b> <ul style="list-style-type: none"> <li>• Priority social health issues among elders in the region and in Sri Lanka</li> <li>• Issues related to assessing social health issues of elderly</li> <li>• Promoting social health among elders</li> <li>• Social services available for elderly in Sri Lanka</li> </ul>	Lecture	1.5

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<p><b>6.Social and financial security of the elderly in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Concepts of socials and financial security and its application for elders</li> <li>• Situation of social and financial security of the elderly in Sri Lanka</li> </ul>	Lecture	1.5
Knowledge	<p><b>7.Care of the demented</b></p> <ul style="list-style-type: none"> <li>• Magnitude of the problem of dementia in the regions and in Sri Lanka</li> <li>• Health and social implications of dementia on elders and the care givers</li> <li>• Community care services for dementia</li> </ul>	Lecture Video Demonstration	1.5
<b>Assessment - End of term combined assignment</b>			
<b>Number of hours: Lectures = 10.5</b>			
<b>Credit points = 0.7</b>			

**Reading Material:**

*Ageing Population in Sri Lanka: Issue and Future Prospects*, Colombo, *UNFPA Publication: 7-43*. (2004)

**Demography and Health Implications of Ageing  
MSc/CM-03**

<b>Components</b>	<b>Credit Points</b>
Demography	1.1
Health Implications of Ageing	0.7
<b>Total</b>	<b>1.8</b>

**Applied Epidemiology  
MSc/CM-04**

**Disease Surveillance & Prevention  
Special Campaigns  
Pharmacoepidemiology**

<i><b>Component 1 : Disease Surveillance &amp; Prevention</b></i>
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**Competencies:**

1. Effective implementation of communicable disease surveillance activities at divisional/District level.
2. Effective implementation of immunization programme activities at divisional/district level
3. Effective control/prevention of communicable diseases at divisional/district level
4. Effectively carrying out outbreak investigations

**Objectives:**

To be able to

1. describe principals of applied epidemiology for effective control/prevention of communicable diseases.

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.Scope and uses of Epidemiology</b> <ul style="list-style-type: none"> <li>• Introduction to Epidemiology</li> <li>• Define general purposes and usefulness of Epidemiologic inquiries</li> </ul>	Lecture	1.5
	<b>2.Disease causation, transmission and control</b> <ul style="list-style-type: none"> <li>• Define disease causation: interactions between agent, host, environment,</li> <li>• Define disease transmission and principles of control</li> </ul>	Lecture	1.5

	<p><b>3.Introduction to the principles of disease surveillance</b></p> <ul style="list-style-type: none"> <li>• Define surveillance</li> <li>• Define different types of surveillance</li> <li>• Develop surveillance case definitions List uses and function of surveillance</li> <li>• Describe the common sources of surveillance data</li> </ul>	Lecture	3.0
Knowledge	<p><b>4.Introduction to Disease Surveillance System in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Describe the disease surveillance system in Sri Lanka</li> <li>• Describe the sentinel site surveillance system in Sri Lanka</li> <li>• Identify the rolls and responsibilities of each member of PHC team in disease surveillance.</li> <li>• List the uses of disease Surveillance system</li> <li>• Describe limitations in surveillance data that impact interpretation</li> <li>• Describe dissemination mechanisms of surveillance data</li> <li>• Evaluation of validity and reliability of surveillance data at National, district divisional and institutional level.</li> <li>• Describe the objective of carry out special investigation on selected diseases</li> </ul>	Lecture	3.0
	<p><b>5. Epidemiology of vaccine preventable diseases (VPD) and VPD Surveillance system in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Describe the Epidemiology of Polio/ AFP/Measles/Rubella</li> <li>• Describe the AFP/Measles/Rubella surveillance activities at the health institutions</li> <li>• Describe the AFP/Measles/Rubella surveillance activities at the field.</li> <li>• Describe the registers and returns related to the AFP/Measles/Rubella Surveillance.</li> <li>• Describe the future challenges</li> </ul>	Lecture	3.0
	<p><b>6.Expanded Programme on Immunization (EPI)</b></p> <ul style="list-style-type: none"> <li>• Describe the objective of EPI &amp; EPI program</li> <li>• Describe the National Immunization schedule</li> <li>• Describe the management of cold chain</li> <li>• Describe the monitoring and evaluation of EPI activities at different levels [National, district and divisional].</li> <li>• Describe the role of RE &amp; MOH in implementation of EPI at different levels (district and divisional)</li> <li>• Describe the future challenges</li> </ul>	Lecture	3.0
Knowledge	<p><b>7. Adevrse Events Follwoing Surveillance (AEFI) system in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Define &amp; categorize AEFI</li> </ul>	Lecture	3.0

	<ul style="list-style-type: none"> <li>• Describe the importance &amp; rationale of AEFI surveillance</li> <li>• Describe the AEFI surveillance system in Sri Lanka</li> <li>• Identify the roles and responsibilities of each member of PHC team in AEFI surveillance.</li> <li>• List the uses of AEFI Surveillance system</li> <li>• Evaluation of validity of AEFI surveillance data at National, district divisional and institutional level</li> </ul>		
	<p><b>8.Disease outbreak management concepts, definitions and steps in investigation</b></p> <ul style="list-style-type: none"> <li>• Recognize early warning signals of disease outbreaks</li> <li>• Identify outbreaks at different levels [National, district and divisional] by using routine surveillance system.</li> <li>• Describe epidemic preparedness at different levels (national, district and divisional)</li> <li>• List the operational steps of an outbreak investigation</li> <li>• Construct and interpret an epidemic curve</li> <li>• List the types of evidence that need to be collected in the field compute and interpret outcome of an outbreak (CFR)</li> </ul>	Practical Exercise	3.0
	<p><b>9.Outbreak Report writing</b></p> <ul style="list-style-type: none"> <li>• Write an outbreak report</li> <li>• Present data and share result of survey</li> </ul>	Lecture	1.5
	<p><b>10. Epidemiology of water borne diseases and current strategies for control of water borne diseases in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Epidemiology of water/food borne diseases</li> <li>• Classification of water/food borne diseases</li> <li>• Common Public health strategies use to control food/Water borne diseases</li> <li>• Critical review of Diarrhoea control Programme activities in SL</li> <li>• Water quality Surveillance</li> </ul>	Lecture	1.5
Knowledge	<p><b>11. Epidemiology of dengue fever and current strategies for control of dengue fever in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Epidemiology of dengue fever</li> <li>• Common public health strategies use to control dengue fever</li> <li>• Critical review of dengue fever control program strategies in SL</li> </ul>	Lecture	3.0
Knowledge	<p><b>12. Epidemiology of leptospirosis and current strategies for control of leptospirosis in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Epidemiology of leptospirosis</li> <li>• Common Public health strategies use to control leptospirosis</li> <li>• Critical review of leptospirosis control activities in SL</li> </ul>	Lecture	1.5
	<p><b>13. Emerging &amp; re emerging diseases</b></p>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Describe the factors for emergence of diseases</li> <li>• List globally important Emerging &amp; Re emerging diseases</li> <li>• List Emerging &amp; Re emerging diseases important for Sri Lanka</li> <li>• Risk of using micro organisms as biological weapons</li> </ul>		
	<p><b>14. Pandemic preparedness and response</b></p> <ul style="list-style-type: none"> <li>• Describe the basic steps in pandemic preparedness and response</li> <li>• Describe the ILI surveillance</li> <li>• Describe the “One Health” concept</li> </ul>	Lecture	1.5
	<p><b>15. International Health Regulations</b></p> <ul style="list-style-type: none"> <li>• Introduction to IHR</li> <li>• Define the scope &amp; purpose of IHR</li> <li>• Public Health emergencies of International concern (PHEIC)</li> <li>• Describe the key core capacities of IHR</li> <li>• Challenges of implementation of IHR</li> </ul>	Lecture	1.5
Skills	<p><b>16. Introduction to field visits</b></p>	Lecture	1.5
Knowledge	<p><b>17. Field visits: Curative care institution &amp; MOH office</b></p> <ul style="list-style-type: none"> <li>• Study disease notification process</li> <li>• Completeness and timelines of IMMR</li> <li>• Role of ICN regarding the disease surveillance</li> <li>• Study the disease surveillance process – ID registry , notification registry, WRCD</li> <li>• Maps and charts related to disease surveillance</li> <li>• Study the AEFI surveillance process – AEFI registry</li> </ul>	Field visit	3.0
	<p><b>18. Field visit: Regional Epidemiologist’s (RE) Office Colombo</b></p> <ul style="list-style-type: none"> <li>• Study the disease surveillance process at district level</li> <li>• Study the implementation of immunization program at district level</li> <li>• Study the communicable disease control measures at district level</li> </ul>	Field visit	3.0
Skill	<p><b>19. Student Presentation – Field visit (Curative care institution, MOH office, RE Office)</b></p> <ul style="list-style-type: none"> <li>• Disease surveillance activities at hospital level</li> <li>• Disease surveillance activities at MOH level</li> <li>• Cold chain maintenance and vaccine stock management at MOH level</li> <li>• Organization of epidemiological services at the district level</li> </ul>	Student Presentation	3.0

Knowledge	<b>20.Data management in applied epidemiology</b> <ul style="list-style-type: none"> <li>• Introduction to different types of surveillance data</li> <li>• Analysis of different types of surveillance data</li> <li>• Interpretation of different types of surveillance data</li> <li>• Presentation of different types of surveillance data</li> </ul>	Group work & Student Presentation	3.0
	<b>21.Zoonotic diseases</b> <ul style="list-style-type: none"> <li>• Global and local epidemiological perspectives</li> <li>• Future challenges for controlling zoonotic diseases in Sri Lanka</li> <li>• One health approach in managing zoonotic diseases</li> </ul>	Lecture	1.5
Knowledge	<b>22.Clinical Epidemiology</b> <ul style="list-style-type: none"> <li>• Determine the differences between sickness and health</li> <li>• Determine the effectiveness of control programmes</li> <li>• Prevention in clinical practice</li> </ul>	Lecture	1.5
	<b>23. Preparedness and response for communicable diseases during disaster</b> <ul style="list-style-type: none"> <li>• Recognize early warning signals and identification of communicable disease outbreaks</li> <li>• Describe the preparedness for prevention of communicable diseases during the disaster</li> <li>• Establishment of disease surveillance system during disaster</li> <li>• Surveillance data management during disaster</li> </ul>	Lecture	1.5
<b>Assessments – End of term combined assignment</b>			
<b>Number of hours: Lectures = 39 : Tutorials + Student Presentations= 6; Field visits = 6</b>			
<b>Credit points = 2.6 + 0. 2 + 0.1 = 2.9</b>			

**Reading material:**

1. Centers for Disease Control and Prevention (CDC), 2006. *Principles of Epidemiology in Public Health Practice: An Introduction to Applied Epidemiology and Biostatistics*, Third Edition. Atlanta, GA 30333.
2. Epidemiology Unit, Ministry of Health, Sri Lanka, 2012. *Immunization Handbook*, 3<sup>rd</sup> Ed. Colombo.
3. Epidemiology Unit, Ministry of Health, Sri Lanka, 2012. *Surveillance Case definitions for Notifiable Diseases in Sri Lanka*, 2<sup>nd</sup> Ed. Colombo.
4. Epidemiology Unit, Ministry of Health, Sri Lanka, 2012. *National Guidelines on Immunization Safety Surveillance*. Colombo.
5. Hennekens CH, Buring, JE, 2006. *EPIDEMIOLOGY IN MEDICINE*, 1<sup>st</sup> ed. Brown and Company, Boston.

**Applied Epidemiology**

**MSc/CD-04**

**Component 2 : Special Campaigns**

**Competencies:**

1. Effective control/prevention of specific communicable / non-communicable diseases of public health relevance at divisional/district level

**Objectives:**

To be able to

1. describe epidemiology of specific communicable / non-communicable diseases of public health relevance
2. discuss application of principals of applied epidemiology for effective control/prevention of specific communicable / non-communicable diseases of public health relevance

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1. Tuberculosis control in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Epidemiology of TB</li> <li>• Common public health strategies to control TB</li> <li>• Milestones and future trends of TB</li> <li>• Monitoring mechanism of public health impact of control strategies</li> <li>• Critical review of TB control program strategies</li> <li>• Future challenges</li> </ul>	Lecture	1 .5
	<b>2. Rabies control in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Epidemiology of Rabies</li> <li>• Common Public health strategies to control Rabies</li> <li>• Milestones and future trends of rabies</li> <li>• Monitoring mechanism of public health impact of control strategies</li> <li>• Critical review of rabies control program strategies</li> <li>• Future challenges</li> </ul>	Lecture	1 .5
	<b>3. Cancer control in Sri Lanka:</b> <ul style="list-style-type: none"> <li>• Epidemiology of common cancers</li> <li>• Common Public health strategies use to control common cancers</li> <li>• Important milestones and future trends of cancers</li> <li>• Monitoring mechanism of public health impact of control strategies</li> <li>• Critical review of cancer control program strategies</li> <li>• Future challenges</li> </ul>	Lecture	1 .5

Knowledge	<b>4. Malaria control in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Epidemiology of Malaria</li> <li>• Common Public health strategies to control Malaria</li> <li>• Milestones and future trends of Malaria</li> <li>• Monitoring mechanism of public health impact of control strategies</li> <li>• Critical review of Malaria control program strategies</li> <li>• Future challenges</li> </ul>	Lecture	1 .5
	<b>5. Sexually transmitted disease (STD) control in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Epidemiology of STDs</li> <li>• Common Public health strategies use to control STDs</li> <li>• Future trends of STDs</li> <li>• Monitoring mechanism of public health impact of control strategies</li> <li>• Collaborations and addressing privacy issues</li> <li>• Critical review of STD control program strategies</li> <li>• Future challenges</li> </ul>	Lecture	1 .5
	<b>6.Leprosy control in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Epidemiology of leprosy</li> <li>• Common Public health strategies use/d to control leprosy</li> <li>• Milestones of Leprosy Control Program</li> <li>• Future trends of leprosy</li> <li>• Critical review of leprosy control strategies</li> <li>• Future challenges</li> </ul>	Lecture	1 .5
	<b>7.Filariasis control in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Epidemiology of filariasis</li> <li>• Common public health strategies to control filariasis</li> <li>• Important milestones and future trends of filariasis</li> <li>• Monitoring mechanism of public health impact of control strategies</li> <li>• Critical review of filariasis control program strategies</li> <li>• Future challenges</li> </ul>	Lecture	1 .5
<b>Number of hours: Lectures = 10.5</b>			
<b>Credit points = 0.7</b>			

**Reading material:**

1. Web sites of individual campaigns
2. Annual reports of special campaigns
3. Annual Health Bulletin

**Applied Epidemiology****MSc/CD-04****Component 3 : Pharmaco-epidemiology****Competencies:**

1. Promotion of rational drug use
2. Effective monitoring of adverse events related to vaccines

**Objectives**

To be able to

1. describe knowledge on principals of pharmaco-epidemiology for rational use of drugs.
2. describe application of principals of pharmaco-epidemiology on vaccine safety.

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1. Introduction to the pharmaco-epidemiology</b> <ul style="list-style-type: none"> <li>• Describe Ppharmaco-epidemiology</li> <li>• Describe pharmaco-vigilance</li> <li>• Describe pharmaco–economics</li> <li>• Describe pharmaco-genomics</li> <li>• Application of epidemiological methods to pharmacological issues</li> <li>• Phases of drug development</li> <li>• Introduction to the pharmaco-epidemiological studies</li> <li>• Data sources for pharmaco-epidemiological studies</li> <li>• Applications of pharmaco-epidemiology</li> </ul>	Lecture	3.0
	<b>2. Application of pharmaco-vigilance in Public Health programmes</b> <ul style="list-style-type: none"> <li>• Aims of pharmaco-vigilance</li> <li>• Need of pharmaco-vigilance</li> <li>• Components of public health programs</li> <li>• Pharmaco-vigilance methods in public health</li> <li>• Challenges of pharmaco -therapy in public health</li> <li>• Sources of information on drug safety</li> </ul>	Lecture	1.5
	<b>3. Spontaneous adverse drug monitoring and causality assessment of suspected adverse drug reactions</b> <ul style="list-style-type: none"> <li>• Introduction to the spontaneous adverse drug monitoring system.</li> <li>• Introduction to the causality assessment of suspected adverse drug reactions</li> </ul>	Lecture	1.5
Knowledge	<b>4. Vaccine safety basic principals</b> <ul style="list-style-type: none"> <li>• Importance of vaccine safety</li> <li>• Pre-licensure vaccine safety studies</li> <li>• Post-licensure surveillance</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Immunization service provider’s role in vaccine safety</li> </ul>		
	<p><b>5. Vaccine safety –Causality assessment of Adverse Events Following Immunization (AEFI)</b></p> <ul style="list-style-type: none"> <li>• Introduction to vaccine causality assessment</li> <li>• Factors to consider when assessing the relationship between vaccine and events</li> <li>• Categories of relationship between vaccines and events</li> <li>• Introduction to vaccine causality assessment mechanism in Sri Lanka</li> </ul>	Lecture	1.5
	<p><b>6. Health policy related to pharmaceutical health promotion, regulation, regulatory body and its functions in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Introduction to the health policy related to pharmaceutical health promotion, regulation, regulatory body and its function in Sri Lanka</li> </ul>	Lecture	1.5
	<p><b>7. Drug utilization Research (DUR) and applicability to public health practitioners</b></p> <ul style="list-style-type: none"> <li>• Introduction to DUR and applicability to public health practitioners</li> </ul>	Lecture	1.5
<b>Number of hours: Lectures = 12</b>			
<b>Credit points = 0.8</b>			

**Reading material:**

1. Text Book of Pharmacoepidemiology. Brian Strom and Stephene Kimmel.
2. National Guidelines on Immunization Safety Surveillance. Epidemiology Unit, Ministry Of Health Sri Lanka, 2012.

**Applied Epidemiology**

**MSc/CM-04**

<b>Components</b>	<b>Credit Points</b>
General	2.9
Special campaigns	0.7
Pharmaco-epidemiology	0.8
<b>Total</b>	<b>4.4</b>

**Environmental Health and Disaster Management**

**MSc/CD-05**

***Component 1 : Environmental Health***

**Competencies:**

1. Prioritization of problems related to environmental pollution
2. Promotion of individual and community practices that protect the environment using evidence based methods
3. Enforcement /implementation of current legislation and monitoring their implementation
4. Identification of areas in which legislation is required and advocate for such legislation

**Objectives:**

To be able to

1. define concept of “Environmental health “ & describe environmental health problems common to Sri Lanka and the role of health sector in promotion of environmentally friendly and healthy technologies and behaviours
2. describe factors responsible for air pollution, types of air pollutants & methods of air quality monitoring & the control & prevention
3. describe “Cleaner Production and Energy Management” and its benefits
4. describe factors related to water and soil pollution and methods of water purification
5. describe types and sources of solid and hazardous waste and environment friendly waste disposal methods
6. describe types and methods of disposal of healthcare waste
7. describe food hygiene, food sampling procedures and techniques and Food Legislation & Organization of Food Control Services in Sri Lanka
8. describe the role of Central Environmental Authority in environmental protection

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.Scope of Environmental Health</b> • Factors that constitute the environment	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Environment pollutants</li> <li>• Water, soil and atmospheric pollution</li> <li>• Effects of pollutants on the environment – acute and chronic effects</li> <li>• Major environmental problems in Sri Lanka</li> <li>• Control measures</li> <li>• Role of health sector in environmental health</li> </ul>		
Knowledge	<p><b>2.Importance of air quality as a determinant of health</b></p> <ul style="list-style-type: none"> <li>• Sources of air pollution</li> <li>• Outdoor air pollution</li> <li>• Sources of outdoor air pollution</li> <li>• Trans boundary air pollution</li> <li>• Air pollution in Sri Lankan cities</li> <li>• Health effects of outdoor air pollution</li> <li>• Indoor air pollution</li> <li>• Criterion indoor air pollution</li> <li>• Urban and rural indoor air pollution and its health effects</li> <li>• Sources of indoor air pollution</li> <li>• Determinants of pollutant concentration</li> <li>• Types of studies in air pollution – ecologic, time series, cohort</li> <li>• Health problems due to air pollution</li> <li>• Air quality monitoring –active and passive</li> <li>• Air quality assessment tools</li> <li>• Air quality management principals</li> <li>• Mortality trends in air pollution related diseases</li> <li>• Approaches to prevent environmental health problems due to air pollution</li> </ul>	Lecture	1.5
	<p><b>3.Waste minimization</b></p> <ul style="list-style-type: none"> <li>• Passive environment strategies</li> <li>• Reactive environmental strategies</li> <li>• Proactive environmental strategies</li> <li>• Cleaner production practices</li> <li>• Benefits of cleaner production</li> <li>• Green productivity</li> <li>• Energy efficiency</li> <li>• Energy conservation</li> <li>• Energy supply and demand</li> <li>• Planning energy management</li> </ul>	Lecture	1.5

<p>Knowledge</p>	<p><b>4. Water environment</b></p> <ul style="list-style-type: none"> <li>• Water cycle</li> <li>• Use and overuse of world water resources</li> <li>• Water pollution and its effects</li> <li>• Soil pollution and its effects</li> <li>• Sources of water and soil pollution</li> <li>• Effects of water and soil pollution</li> <li>• Water scarcity – global and Sri Lankan</li> <li>• Water borne diseases</li> <li>• Bio accumulation</li> <li>• Water conservation methods</li> <li>• Water quality parameters; physical, chemical biological</li> <li>• Prevention of water and soil pollution</li> <li>• Water pollution control legislation in Sri Lanka</li> </ul>	<p>Lecture</p>	<p>1.5</p>
	<p><b>5. Global and local situation of potable water</b></p> <ul style="list-style-type: none"> <li>• Methods of water sanitation adopted in community water supplies</li> <li>• Water sanitation systems</li> <li>• Water treatment</li> <li>• Excreta disposal methods</li> <li>• Principles in selecting excreta disposal methods in different conditions</li> <li>• Current situation of excreta disposal in Sri Lanka</li> </ul>	<p>Lecture</p>	<p>1.5</p>
	<p><b>6. Wastewater treatment methods</b></p> <ul style="list-style-type: none"> <li>• Sewerage treatment methods</li> <li>• Observe the waste water treatment process in an industrial setting</li> </ul>	<p>Field Visit: Waste water Treatment Plant</p>	<p>3.0</p>
<p>Knowledge</p>	<p><b>7. Solid waste</b></p> <ul style="list-style-type: none"> <li>• Types and sources of solid waste</li> <li>• Municipal solid waste</li> <li>• Solid waste management principles</li> <li>• Methods of solid waste management</li> <li>• Management of bio degradable waste</li> <li>• Plastic, polythene, glass and metal waste management</li> <li>• Waste disposal methods – land filling</li> <li>• Sri Lankan situation in solid waste</li> <li>• National colour code in waste management</li> <li>• Legislation on solid waste management</li> </ul>	<p>Lecture</p>	<p>1.5</p>

	<ul style="list-style-type: none"> <li>• Hazardous waste</li> <li>• Types of hazardous waste and sources of generation</li> <li>• Methods of management of hazardous waste</li> <li>• Principles and methods of disposal of hazardous waste</li> <li>• Regulations on hazardous waste</li> </ul>		
	<p><b>8.Healthcare waste</b></p> <ul style="list-style-type: none"> <li>• Types of healthcare waste – Non risk and risk waste</li> <li>• Categories of risk waste</li> <li>• Management of healthcare waste</li> <li>• National guidelines on waste management</li> <li>• National colour code on HCWM</li> <li>• Collection, storage, transport and disposal of healthcare waste</li> <li>• Methods of waste treatment</li> <li>• Legislation on healthcare waste management</li> <li>• Healthcare waste management programme in Sri Lanka</li> <li>• Occupational safety of waste handlers</li> <li>• Visit to a healthcare waste management plant: observe the management of healthcare wastes from the point of origin to final disposal</li> </ul>	Lecture	1.5
		Field Visit	1.5
	<p><b>9.Global warming</b></p> <ul style="list-style-type: none"> <li>• Anticipated climate change effects</li> <li>• Global situation on climate change effects</li> <li>• Sri Lankan situation on climate change effects</li> <li>• Impacts of climate change on health</li> <li>• Direct health effects</li> <li>• Indirect health effects</li> <li>• Impact on food security</li> <li>• Measures of prevention and control of climate change</li> </ul>	Lecture	1.5
Knowledge	<p><b>10.Current legislation on environment health in Sri Lanka:</b></p> <ul style="list-style-type: none"> <li>• National Environment Act, Coastal Conservation Act etc</li> <li>• Implementing agencies of environment legislation</li> <li>• Legislative procedures that should be followed by health the sector when implementing environmental health programmes</li> <li>• International conventions on Environmental Health ratified by Sri Lanka; Montreal protocol, Basal Convention, UNFCCC etc.</li> </ul>	Lecture	1.5
	<p><b>11.Functions and services of the Central Environmental Authority (CEA) in environmental health</b></p> <ul style="list-style-type: none"> <li>• Regulatory, Protective, Promotional</li> <li>• Implementing mechanisms adopted by the CEA: Environment Protection License, Schedule Waste Management License,</li> </ul>	Lecture	1.5

	<p>Environment Impact Assessment</p> <ul style="list-style-type: none"> <li>• Responsible agencies for environmental health in Sri Lanka and their role in environment protection</li> </ul>		
	<p><b>12. Definition of Environmental Impact Assessment (EIA)</b></p> <ul style="list-style-type: none"> <li>• Impacts of environment by development projects</li> <li>• Projects that require EIA</li> <li>• Initial Environment Examination</li> <li>• Major steps in EIA</li> <li>• Contents of EIA Report</li> <li>• Importance of EIA to the health sector</li> </ul>	Lecture	1.5
	<p><b>13. Environment and Development</b></p> <ul style="list-style-type: none"> <li>• Strategies on Pollution Control</li> <li>• National Environmental Act</li> <li>• Environmental Protection License components and methods of issuance</li> <li>• Scheduled Waste Management License</li> <li>• Environmental Standards for Industrial Emissions</li> <li>• Current Situation of the EPL Scheme</li> <li>• Future needs to the Environment Law</li> </ul>	Lecture	1.5
	<p><b>14. Food Control Service of Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Legislative framework on food safety in Sri Lanka: Food Act and Regulations, Municipal Ordinance, Urban Council Act, Pradeshiya Sabha Act and other legislation related food safety</li> <li>• Powers and roles of Authorized Officers</li> <li>• International codes of practices in food safety &amp; hygiene- CODEX, SPS Agreement, TBT Agreement</li> </ul>	Lecture	1.5
Knowledge	<p><b>15. Principles of food safety &amp; hygiene</b></p> <ul style="list-style-type: none"> <li>• Different food sampling procedures and techniques: Preparation for food sampling, formal sample, informal sample, minimum quantities for sampling, documentation and record keeping</li> <li>• Sample dispatch methods and Analytical services provided by the food laboratories</li> <li>• Actions to be taken based on results; advice, destroying, legal action</li> </ul>	Lecture	3.0
	<p><b>16. Analytical services provided by the Department of Government Analyst</b></p> <ul style="list-style-type: none"> <li>• Methods of analysis of different types of food samples</li> <li>• Observe the reporting and dispatching system of results</li> </ul>	Field Visit: Food Laboratory	3.0
	<p><b>17. Identify food safety and hygienic measures in a food manufacturing plant</b></p>	Field Visit: Food	3.0

	<ul style="list-style-type: none"> <li>Identify deviations from food safety and hygienic measures and compliance with food safety legislation</li> </ul>	Manufacturing Plant	
<p><b>Number of hours: Lectures = 22.5 + Field visits = 10.5</b></p> <p><b>Credit points = 1.5 + 0.35 = 1.85 = 1.9</b></p>			

**Reading material: Environmental Health** – Refer Occupational Health Module

**Environmental Health & Disaster Management**  
**MSc/CD-05**

***Component 2 : Disaster Management***

**Competencies:**

1. Application of basic principles of disaster management in relation to disaster preparedness and response
2. Provision of leadership to address health aspects related to disaster preparedness and response
3. Working in harmony with all stakeholders to bring about effective disaster preparedness and response

**Objectives:**

To be able to

1. describe basic principles of disaster management
2. describe the disaster management framework in Sri Lanka
3. describe the basic steps of disaster preparedness at divisional level
4. describe the vital health services required to be provided in the aftermath of a disaster
5. discuss critically the role of Health Sector and the Medical Officer of Health in disaster preparedness and management
6. list the important stakeholders in disaster management

Domain	Content	Mode of delivery	Time – hours
Knowledge	<p><b>1.Introduction to Disaster Management</b></p> <ul style="list-style-type: none"> <li>History, epidemiology, and impact of disasters</li> <li>Phases of disaster management</li> <li>Disaster management cycle</li> <li>Overview of Disaster Preparedness and Response</li> <li>Role of the health sector in disaster management</li> <li>Role of the medical officer in disaster management</li> <li>Role of the community physician in disaster management</li> <li>Introduction to environmental health in disasters</li> <li>Stakeholders in disaster management</li> <li>Disaster management framework in Sri Lanka</li> </ul>	Lecture	4 .5
	<p><b>2.Mass Casualty Management</b></p>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Introduction to mass casualty incidents</li> <li>• Role of the health services in mass casualty management</li> <li>• Basic principles of mass casualty management</li> <li>• Resources required for effective mass casualty management</li> </ul>		
Knowledge	<b>3. Maternal Child Health in Disasters</b> <ul style="list-style-type: none"> <li>• Vulnerable populations in disaster situations</li> <li>• Impact of disasters on maternal and child health</li> <li>• Basic principles of reproductive health in disasters</li> <li>• Introduction of Minimum Initial Service Package</li> <li>• Health services provided to mothers and children in disaster situations</li> </ul>	Lecture	1.5
	<b>4. Disease Surveillance and Control during Disasters</b> <ul style="list-style-type: none"> <li>• Common diseases expected after disasters</li> <li>• Common diseases expected among displaced population</li> <li>• Role of the community physician in disease control in disaster situations</li> <li>• Basic principles of controlling diseases in disaster situations</li> <li>• Techniques used for disease surveillance following disasters</li> <li>• Resources required for disease surveillance and control in disaster situations</li> </ul>	Lecture	1.5
<b>Number of hours: Lectures = 9.0</b>			
<b>Credit Points: 0.6</b>			

**Reading Material :**(all included below are available online)

1. Environmental Health in Emergencies and Disasters - Practical Guide – WHO.
2. Community emergency preparedness: a manual for managers and policy-makers – WHO.
3. Public Health Guide for Emergencies - The Johns Hopkins and Red Cross / Red Crescent.
4. Communicable disease control in emergencies - A field manual – WHO.
5. WHO Emergency Handbook – WHO/EMRO.
6. The ABCs of Disaster Medical Response - Manual for Providers – International Trauma and Disaster Institute.
7. Humanitarian Charter and Minimum Standards in Humanitarian Response – Sphere Project Handbook 2011.
8. Management of Nutrition in Major Emergencies – WHO.
9. Inter-agency Field Manual on Reproductive Health in Humanitarian Settings.

**Environmental Health & Disaster Management**

**MSc/CM-05**

<b>Components</b>	<b>Credit Points</b>
<b>Environmental health</b>	1.9
<b>Disaster management</b>	0.6
<b>Total</b>	<b>2.5</b>

**Occupational Health**

**MSc/CD-06**

**Competencies:**

1. Carrying out risk assessment: evaluate hazards and risks at the workplace
2. Making the management aware of the legal requirements in relation to health, safety and welfare of workers
3. Provision of advice to the management on the control of hazards and minimizing risks
4. Making workers aware of occupational health hazards and conducting health promotion activities among them
5. Recognize occupation related diseases, referral of patients for treatment and advice management on the specific preventive measures for identified hazards
6. Collaborating with the Labour Department in matters related to health and safety of the workers

**Objectives:**

To be able to

1. describe occupational health hazards and the adverse effects
2. discuss prevention of fire hazards
3. describe the regulations applicable to workers and the limitations of existing legislature
4. to conduct the walk through survey to identify hazards and available preventive measures
5. to describe the different types of personal protective equipment
6. to describe the functions of a occupational health service

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.Introduction to occupational health</b> <ul style="list-style-type: none"> <li>• History of occupational health</li> <li>• Aims of occupational health</li> <li>• Effects of work on health</li> <li>• Effects of health on work</li> <li>• Costs associated with occupational diseases/injuries</li> </ul>	Lecture	1.5
Knowledge	<b>2.Introduction to physical hazards</b> <ul style="list-style-type: none"> <li>• Thermal environment and work sites with heat exposure</li> <li>• Diseases and injuries due to heat exposure</li> <li>• Occupational exposure to excessive noise</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Auditory, physiological and psychological effects of excessive noise</li> <li>• Types of vibration</li> <li>• Occupational exposure to vibration</li> <li>• Health effects of vibration</li> <li>• Poor and excessive illumination</li> <li>• Effects of illumination on work and health</li> <li>• Occupational exposure to high pressure</li> <li>• Adverse health effects of pressure</li> <li>• Occupational exposure to ionizing and non ionizing radiation</li> <li>• Health effects of radiation</li> <li>• Measurement of noise, light, heat stress, pressure and radiation</li> <li>• Control methods - Engineering, Administrative, Personal Protective Equipment</li> </ul>		
	<p><b>3.Introduction &amp; Toxic Metals</b></p> <ul style="list-style-type: none"> <li>• Identification different forms of toxic chemicals</li> <li>• Material Safety Data Sheets</li> <li>• Adverse effects of chemicals</li> <li>• Acute and chronic toxicity</li> <li>• Safe use of chemicals</li> <li>• Toxic metals commonly associated with occupations: lead, mercury, arsenic, cadmium, chromium, nickel, zinc etc.</li> <li>• Specific adverse health effects of exposure to toxic metals</li> <li>• Specific preventive measures adopted in occupational settings</li> </ul>	Lecture	1.5
Knowledge	<p><b>4.Solvents and Gases</b></p> <ul style="list-style-type: none"> <li>• Classification of solvents</li> <li>• Properties of solvents</li> <li>• Uses of solvents in industries</li> <li>• Specific toxic effects of solvents</li> <li>• Control and preventive methods</li> </ul> <p><b>Gases associated with occupations</b></p> <ul style="list-style-type: none"> <li>• Simple asphyxiants</li> <li>• Chemical asphyxiants</li> <li>• Irritant gases</li> <li>• Types of chemical dusts</li> <li>• Adverse health effects of solvents, gases and dusts</li> </ul> <p>Preventive and control measures from exposure to solvents, gases and dusts in occupational settings</p>	Lecture	1.5
	<p><b>5.Pesticides and occupational cancers</b></p> <ul style="list-style-type: none"> <li>• Classification of pesticides – Insecticides, Fungicides,</li> </ul>	Lecture	1.5

	<p>Herbicides, Rodenticides, Molluscicides, Acaricide</p> <ul style="list-style-type: none"> <li>• Composition of pesticides</li> <li>• Occupational exposure pathways</li> <li>• Adverse health effects</li> <li>• Control and prevention of occupational exposure</li> <li>• Types of occupational cancers – skin, bladder, lung, nasal, liver etc</li> <li>• Prevention of occupational cancers</li> </ul>		
	<p><b>6.Types of hazardous biological agents: virus, bacteria, fungus and others</b></p> <ul style="list-style-type: none"> <li>• Occupations associated with biological hazards – agriculture, animal husbandry, food processing, healthcare, waste handling etc</li> <li>• Pathways of occupational exposure</li> <li>• Disease conditions due to biological hazards – fungal infections, TB, hepatitis, leptospirosis, allergies</li> <li>• Handling of hazardous biological waste</li> <li>• Prevention and control of occupational exposure to biological hazards.</li> </ul>	Lecture	1.5
Knowledge	<p><b>7.Definition of ergonomics</b></p> <ul style="list-style-type: none"> <li>• Functions of an ergonomist</li> <li>• Structure of an ergonomic programme</li> <li>• Work associated ergonomic problems</li> <li>• Physical stress due to workplace and equipment design</li> <li>• Improvement of work and workplace design</li> <li>• Improvement of equipment design</li> <li>• Proper design of chairs</li> <li>• Proper weight lifting techniques</li> <li>• Pushing and pulling techniques</li> <li>• Application of ergonomics at workplace</li> </ul>	Lecture	1.5
	<p><b>8.Fire hazards</b></p> <ul style="list-style-type: none"> <li>• Classification of fire</li> <li>• Elements of fire</li> <li>• Workplace fire hazards</li> <li>• Fire extinguishing methods</li> <li>• Fire prevention methods</li> <li>• Electrical hazards in an occupational setting</li> <li>• Importance of electrical safety in a occupational setting</li> <li>• Preventive measures on electrical hazards in an occupational setting</li> </ul>	Lecture	1.5
	<p><b>9.Machinery related injuries</b></p> <ul style="list-style-type: none"> <li>• Point of operation guarding</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Power transmission</li> <li>• Guarding of moving parts</li> <li>• Rotating shafts and pulleys</li> <li>• Lockouts and tag outs</li> <li>• Requirements for safe guards</li> <li>• Safe work procedures</li> <li>• Training of operators</li> </ul>		
Knowledge	<p><b>10.Occupational hazards specific to selected industries</b></p> <p><b>Agricultural workers:</b></p> <ul style="list-style-type: none"> <li>• Physical, chemical, biological, ergonomic and psychological hazards.</li> <li>• Methods of occupational exposure</li> <li>• Adverse health effects</li> <li>• Control and preventive methods</li> </ul> <p><b>Fishing industry:</b></p> <ul style="list-style-type: none"> <li>• Physical, chemical, biological, ergonomic and psychological hazards.</li> <li>• Methods of occupational exposure</li> <li>• Adverse health effects</li> <li>• Control and preventive methods</li> </ul> <p><b>Coir industry:</b></p> <ul style="list-style-type: none"> <li>• Physical, chemical, biological, ergonomic and psychological hazards.</li> <li>• Methods of occupational exposure</li> <li>• Adverse health effects</li> <li>• Control and preventive methods</li> </ul> <p><b>Construction, brick &amp; tile industry:</b></p> <ul style="list-style-type: none"> <li>• Physical, chemical, biological, ergonomic and psychological hazards.</li> <li>• Methods of occupational exposure</li> <li>• Adverse health effects</li> <li>• Control and preventive methods</li> </ul> <p><b>Healthcare industry:</b></p> <ul style="list-style-type: none"> <li>• Physical, chemical, biological, ergonomic and psychological hazards.</li> <li>• Methods of occupational exposure</li> <li>• Adverse health effects</li> <li>• Control and preventive methods</li> </ul>	Lecture	1.5
	<p><b>11.Benefits of industrial ventilation</b></p> <ul style="list-style-type: none"> <li>• Strategies for air quality improvement</li> <li>• Dilution ventilation system</li> <li>• Local exhaust ventilation system</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Requirements in choosing lighting</li> <li>• Controlling glare</li> <li>• Recommended illumination for different tasks</li> </ul>		
Knowledge	<b>12.Introduction to nanotechnology</b> <ul style="list-style-type: none"> <li>• Use of nanotechnology in industries</li> <li>• Risk assessment in nanotechnology Occupational exposure and effects of nanomaterial</li> <li>• Environment contamination by industrial use of nanomaterial</li> <li>• Effects on human health by nanomaterial in the environment</li> </ul>	Lecture	1.5
	<b>13.Description of the 5S principle</b> <ul style="list-style-type: none"> <li>• Organization, orderliness, cleanliness, standardize, sustain</li> <li>• Advantages of 5S</li> <li>• Application of 5S in occupational settings</li> <li>• Increasing productivity through 5S</li> </ul>	Lecture	1.5
	<b>14.Definition of Quality of Work Life (QWL)</b> <ul style="list-style-type: none"> <li>• Importance of QWL</li> <li>• Changing jobs</li> <li>• Family and work roles</li> <li>• QWL programmes</li> <li>• Alternate work arrangements</li> <li>• Improving QWL</li> <li>• Factors affecting QWL</li> <li>• Parameters that ensure QWL</li> <li>• Future perspectives of QWL</li> </ul>	Lecture	1.5
	<b>15.Concepts of healthy work setting</b> <ul style="list-style-type: none"> <li>• Participation, integration, project management, comprehensiveness</li> <li>• Principles of health promotion at workplace</li> <li>• Planning, implementation, monitoring and evaluation of health promotion activities at work place</li> <li>• Effects of workplace health promotion on workers health</li> </ul>	Lecture	1.5
	<b>16.Occupations at risk of developing lung diseases</b> <ul style="list-style-type: none"> <li>• Respiratory diseases associated with work: Obstructive lung diseases – occupational asthma, COPD, chronic bronchitis, hypersensitivity pneumonitis</li> <li>• Restrictive lung diseases - Asbestosis, Silicosis, pulmonary fibrosis</li> <li>• Establishing work relatedness of lung diseases – lung function tests, skin tests</li> <li>• Prevention and control of occupational lung diseases</li> </ul>	Lecture	1.5
Knowledge	<b>17.Definition of occupational dermatoses</b>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Occupations at risk of developing dermatoses</li> <li>• Eczematous occupational dermatoses</li> <li>• Non eczematous occupational dermatoses</li> <li>• Occupational contact urticaria</li> <li>• Occupational skin cancers</li> <li>• Scleroderma like diseases related to occupational &amp; environmental factors</li> <li>• Preventive measures for occupational skin diseases at workplace</li> </ul>		
	<p><b>18.Relationship of work and mental health</b></p> <ul style="list-style-type: none"> <li>• Common psychological problems at work settings and their effects on worker</li> <li>• Causes, effects and management of occupational stress</li> <li>• Effects of shift work on workers health</li> <li>• Workplace practices that promote mental health</li> <li>• Mental health services available for workers in Sri Lanka</li> </ul>	Lecture	1.5
	<p><b>19.Different types of occupational accidents and injuries</b></p> <p>Factors that contribute to accidents: environmental, physiological, psychological</p> <p>Investigation and reporting of accidents</p> <p>Workman’s compensation mechanism</p> <p>International commitments on prevention of occupational accidents –conventions and recommendations</p> <p>Workplace practices and measures for prevention of occupational injuries</p>	Lecture	1.5
	<p><b>20.Common occupational injuries/ disorders that need rehabilitation</b></p> <ul style="list-style-type: none"> <li>• Methods and main activities in:             <ol style="list-style-type: none"> <li>a. Medical rehabilitation</li> <li>b. Vocational rehabilitation</li> <li>c. Occupational rehabilitation</li> </ol> </li> <li>• Return to work concept</li> <li>• Role of physician and paramedical services in occupational rehabilitation</li> <li>• Rehabilitation services available in Sri Lanka</li> </ul>	Lecture	1.5
Knowledge	<p><b>21.History of development of occupational health legislation</b></p> <ul style="list-style-type: none"> <li>• Factories Ordinance: areas covered &amp; its implementation</li> <li>• Rights of an Authorized Officer</li> <li>• Obligation of an occupier</li> <li>• Duties of persons employed</li> <li>• Dangerous occurrences</li> <li>• Welfare facilities</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• General Register</li> <li>• Notification of industrial accidents and diseases</li> <li>• Other Enactments on Occupational Health &amp; Safety</li> </ul>		
	<p><b>22.Workman’s compensation ordinance</b></p> <ul style="list-style-type: none"> <li>• Mechanism of determination of compensation</li> <li>• Employment conditions for state and private sector employees – leave, probation, confirmation, termination etc</li> <li>• Social security schemes for the state sector employees</li> <li>• Social security schemes for the private sector and employees and the self employed</li> </ul>	Lecture	1.5
	<p><b>23.Objectives of an occupational health service</b></p> <ul style="list-style-type: none"> <li>• Main components of an OH service</li> <li>• Prevention</li> <li>• Planning</li> <li>• Health surveillance, screening &amp; record keeping</li> <li>• Assessing fitness for work – pre employment, return to work, routine examination</li> <li>• First Aid</li> <li>• Health Education and Counseling</li> <li>• Record keeping in a OH service</li> <li>• Health promotion</li> <li>• Role of the Ministry of Health</li> <li>• Services provided by the preventive and curative health sectors</li> <li>• OH services provided by other sectors</li> </ul>	Lecture	1.5
	<p><b>24.Risk identification in occupational settings</b></p> <ul style="list-style-type: none"> <li>• Components of a risk audit</li> <li>• Methods of conducting a risk audit</li> <li>• Managing risks – hazard identification, assessing associated risks, mitigatory actions, monitoring the effectiveness, record keeping</li> <li>• Management systems for occupational health and safety</li> </ul>	Lecture	3.0
Knowledge	<p><b>25.Aims of standardization</b></p> <ul style="list-style-type: none"> <li>• Quality certification</li> <li>• Quality accreditation</li> <li>• Occupational Health &amp; Safety Importance of implementing safety management systems</li> <li>• Safety Management Systems – OHSAS 18001:2007</li> <li>• OHS elements under OHSAS</li> <li>• OHS policy</li> <li>• Safety Standards and Regulations</li> </ul>	Lecture	1.5

	<p><b>26.Aims of hazard control</b></p> <ul style="list-style-type: none"> <li>• Identifying the nature and source of hazard</li> <li>• Emission sources and nature of emission</li> <li>• Characterizing the exposure profile, worker and workplace</li> <li>• Current controls and their efficiency</li> <li>• Alternative controls that are cost effective, efficient and acceptable to workplace</li> <li>• Trialing the anticipated controls</li> <li>• Feedback and evaluating the effectiveness of controls</li> </ul>	Lecture	1.5
	<p><b>27.Factors required for exposure</b></p> <ul style="list-style-type: none"> <li>• Hierarchy of control</li> <li>• Elimination</li> <li>• Substitution</li> <li>• Engineering control</li> <li>• Administrative control</li> <li>• Personal Protective Equipment</li> <li>• Monitoring and evaluation of hazard control program</li> </ul>	Lecture	1.5
	<p><b>28.Personal protective equipment (PPE)</b></p> <ul style="list-style-type: none"> <li>• Describe different types of PPE used in different hazardous conditions</li> <li>• Describe PPE for Head, ear, eye, respiratory, hand, foot, and skin protection</li> <li>• Demonstrate use of PPE</li> </ul>	Practical	1.5

Domain	Content	Mode of Delivery	Time – hrs
Knowledge	<p><b>29.Steps of a walkthrough survey</b></p> <ul style="list-style-type: none"> <li>• Observing and identifying health and safety issues in tasks</li> <li>• Observing and identifying health and safety issues in equipment</li> <li>• Evaluating the work environment</li> <li>• Availability and adequacy of Personal Protective Equipment</li> <li>• Welfare and health facilities</li> <li>• Emergency evacuation and fire drill</li> <li>• Notification of industrial accidents and diseases</li> <li>• Factory inspection report writing</li> </ul>	Lecture	1.5
	<p><b>30.Services provided by Occupational Hygiene Laboratory to the industries</b></p> <ul style="list-style-type: none"> <li>• Describe the various laboratory tests and other measurements – heavy metals, lung function tests, audiometry, sound level testing, heat stress, light, dust etc</li> <li>• Observe and demonstrate operation of testing equipment</li> </ul>	Lecture	1.5

Skills	<b>31.Critically analyze an occupational health issue</b> <ul style="list-style-type: none"> <li>• Describe the identified issue</li> <li>• Describe the shortcomings leading to the issue</li> <li>• Recommend methods to control and prevention of identified occupational health problems</li> </ul>	Student Seminar	3.0
	<b>32.Conduct walkthrough survey in a factory</b> <ul style="list-style-type: none"> <li>• Identification of occupational hazards</li> <li>• Identification of available occupational health services</li> <li>• Identification of control measures adopted</li> <li>• Identification of compliance to occupational health and safety legislation</li> </ul>	Practical	3.0
	<b>33.Presentation of factory inspection report</b> <ul style="list-style-type: none"> <li>• Describe identified hazards</li> <li>• Critically evaluate the identified health and safety issues</li> <li>• Describe the health and welfare services provided</li> <li>• Describe the level of compliance to the provisions of the factories ordinance</li> <li>• Recommend preventive and promotive measures for identified health and safety issues</li> </ul>	Student Seminar	1.5
<b>Assessment: End of term combined assignment</b>			
<b>Number of hours: Lectures = 46.5 + Student seminars= 4.5 + Practical sessions = 4.5</b>			
<b>Credit points = 3.1 + 0.15 + 0.15 = 3.4</b>			

**Reading Material (Occupational & Environmental Health):**

1. Textbook of Occupational Medicine Practice. David Koh, Chia KeeSeng, J. Jeyarathnam
2. Research Methods in Occupational Epidemiology. Harvey Checkoway, Neil Pearce, David Kriedel
3. Occupational Health – A Manual for Primary Healthcare Workers. World Health Organization
4. Basic Concepts of Industrial Hygien. Ronald Scott
5. Current Occupational and Environmental Medicine. Joseph LaDou
6. A practical approach to Occupational and Environmental Medicine. Robert. J. McCunney
7. Textbook of Clinical Occupational and Environmental Medicine. Linda Rosenstock, Mark. R. Cullen, Carl.A. Bradkin
8. Clays Handbook of Environmental Health. W.H. Basset

**Maternal & Child Health**

**MSc/CD-07**

**Competencies:**

1. Efficient public health manager for delivery of maternal and child health services at all levels

**Objectives:**

To be able to

1. upgrade knowledge related to Maternal, Newborn and Child Health (MNCH), Reproductive Health (RH) and Family Planning (FP)
2. describe organization structure and service delivery mechanism of all components of maternal and child health services in Sri Lanka
3. describe the principles and evidence based interventions in MCH/FP
4. discuss the international declarations on MNCH/ RH and their application into Sri Lankan context
5. describe national MCH policy, strategic plans on respective components in MCH
6. acquire skills on practical implementation of all components of MCH/FP programs
7. describe the mechanism of monitoring and evaluation of MCH/FP programme
8. discuss the importance of surveillance systems in MCH program and its implementation
9. acquire problem solving skills in MCH and improve confidence and presentation skills
10. describe the concepts related to new MNCH projects and programmes implemented in the country

Domain	Content	Mode of Delivery	Time – hrs
Knowledge	<p><b>1.Family Health Programme :</b></p> <ul style="list-style-type: none"> <li>• Development of Family Health Program</li> <li>• Components, objectives, strategies and targets</li> <li>• Broad Organization structure at central, district and provincial levels for service delivery</li> <li>• Achievements &amp; successes</li> <li>• Challenges</li> </ul>	Lecture	6.0
	<p><b>2.Roles and responsibilities of health personnel in the F.H.programme</b></p> <ul style="list-style-type: none"> <li>• Duties of different categories of health staff – overall functions of health staff MOMCH, RSPHNO, MOH, PHNS, SPHI, SPHM</li> </ul>		
	<p><b>3.Concept of Reproductive health and Millennium Development goals</b></p> <ul style="list-style-type: none"> <li>• Concept of reproductive health and its compnents</li> <li>• Integration into MCH programme</li> <li>• WHO Reproductive health strategy</li> <li>• Millennium Development Goal Targets, achievements and challenges</li> </ul>		

Knowledge	<p><b>B. Maternal Care</b></p> <p><b>1. Maternal care</b></p> <ul style="list-style-type: none"> <li>• Pre -Conception care</li> <li>• Importance of pre-conception care</li> <li>• Package for newly married couples</li> </ul> <p><b>2. Safe motherhood concept:</b></p> <ul style="list-style-type: none"> <li>• Importance of safe motherhood</li> <li>• History of the safe mother hood</li> <li>• Safe mother hood concept</li> <li>• ICPD action plan</li> </ul> <p><b>3. Maternal care programme in Sri Lanka and Field maternal care services</b></p> <ul style="list-style-type: none"> <li>• Objectives of the antenatal and postnatal care</li> <li>• Service delivery model</li> <li>• Package of evidence based interventions for maternal care</li> <li>• Screening during pregnancy</li> <li>• Basic investigations</li> <li>• Monitoring of maternal and fetal wellbeing</li> <li>• Micronutrient supplementation</li> </ul> <p><b>4. Common medical and obstetric problems during pregnancy and management at community level</b></p> <ul style="list-style-type: none"> <li>• Common medical and obstetric problems during pregnancy and post partum period, their management at community level and institutional level</li> <li>• Identification and management of risk factors, at field and institutional level.</li> </ul> <p><b>5. Nutrition of pregnant and lactating mothers</b></p> <ul style="list-style-type: none"> <li>• Importance of proper nutrition during pregnancy and lactation</li> <li>• Nutritional requirements during pregnancy and lactation</li> <li>• Anthropometric assessment and weight gain monitoring during pregnancy</li> <li>• Anaemia during pregnancy</li> </ul> <p><b>6. Low birth weight prevention</b></p> <ul style="list-style-type: none"> <li>• Definition of low birth weight</li> <li>• Causes of low birth weight\</li> <li>• Evidence based interventions for prevention of low birth weight</li> <li>• Low birth weight and NCD</li> <li>• Socio- economic impact of low birth weight</li> </ul>	Lectures	12.0
Knowledge	<p><b>7. Prevention and control of preterm births</b></p> <ul style="list-style-type: none"> <li>• Definition of pre term birth</li> </ul>		

	<ul style="list-style-type: none"> <li>• Causes for pre term birth</li> <li>• Evidence based interventions for prevention and control of pre term births</li> <li>• Impact of pre term births in later life</li> </ul>		
	<p><b>8.Prevention and control of birth defects</b></p> <ul style="list-style-type: none"> <li>• Definition of Birth defect</li> <li>• Causes for birth defects</li> <li>• Evidence based interventions for prevention and control of birth defects</li> <li>• Impact of pre-term births in later life</li> </ul>		
	<p><b>C. Intra-natal and newborn care Programme in Sri Lanka</b></p>	Lectures	6.0
	<p><b>1.Intra-natal and newborn care Programme in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Objectives of the intra-natal and newborn care component of the Programme</li> <li>• Service delivery model</li> <li>• Package of evidence based interventions for intra-natal and newborn care</li> <li>• Strategies identified to deliver intra-natal and newborn care</li> </ul>		
	<p><b>2.Essential Obstetric and Newborn Care</b></p> <ul style="list-style-type: none"> <li>• Definitions of essential obstetric and newborn care</li> <li>• Evidence based interventions on essential obstetric and newborn care</li> <li>• Service delivery model</li> <li>• Information system for obstetric and newborn care</li> </ul>		
	<p><b>3.Newborn care in the community</b></p> <ul style="list-style-type: none"> <li>• Key components of newborn care in the community</li> <li>• Service delivery model for delivery of newborn care in the community</li> <li>• Evidence based interventions</li> </ul>		
	<p><b>D. Breast feeding and young child feeding</b></p>	Lectures	12.0
	<p><b>1.Breast feeding programme in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• National policy on breastfeeding in Sri Lanka</li> <li>• Current status of breastfeeding in Sri Lanka</li> <li>• Strategies adopted by the national breastfeeding Programme in Sri Lanka</li> </ul>		
Knowledge	<p><b>2.Infant and young child feeding (IYCF)</b></p> <ul style="list-style-type: none"> <li>• Current nutritional status of under five children</li> <li>• Status of IYCF indicators in Sri Lanka</li> <li>• Importance of IYCF</li> <li>• Problems of complementary feeding</li> </ul>		

	<ul style="list-style-type: none"> <li>• Definition, and objectives of complementary feeding</li> <li>• Recommendations on IYCF (10 key recommendations)</li> <li>• What is done at national level to promote IYCF (policy, strategy, capacity building, IEC material, etc)</li> </ul>		
	<p><b>3.Lactation management</b></p> <ul style="list-style-type: none"> <li>• Definitions on breastfeeding</li> <li>• Knowledge essential to support breastfeeding</li> <li>• Essential skills and competencies to support</li> <li>• Breastfeeding</li> <li>• Common problem of breastfeeding and their</li> <li>• Management</li> </ul>		
	<p><b>4.Growth monitoring and promotion (GMP) programme in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Definitions of GMP</li> <li>• Objectives of the Programme</li> <li>• Importance of GMP</li> <li>• Indicators to assess growth</li> <li>• Frequencies of weight and length/height measurements</li> <li>• Definitions of growth faltering, underweight, stunting, wasting and categories (normal growth and global, moderate, severe malnutrition)</li> <li>• Key steps in GM</li> <li>• Conducting the Programme in the fields (CWC, weighing posts )</li> <li>• Types of anthropometric equipment used in the national Programme</li> <li>• Technique of weighing, length &amp; height measurement</li> <li>• Relevant records and returns</li> <li>• Interpreting growth charts and curves and relevant interventions according to the growth status</li> <li>• Advantages of GMP</li> <li>• Responsibilities of PHM, SPHM, PHNS, MOH, MOMCH in GMP</li> <li>• Supervision of the Programme</li> </ul>		
Knowledge	<p><b>5.Child Health Development Record (CHDR)</b></p> <ul style="list-style-type: none"> <li>• Evolution for the CHDR <u>in brief</u> (from foldable card to current booklet)</li> <li>• Importance of CHDR</li> <li>• Objectives of the CHDR</li> <li>• Brief description of all the sections in the CHDR</li> <li>• WHO new growth standards in brief</li> <li>• Use of CHDR</li> </ul>		

	<ul style="list-style-type: none"> <li>• Estimation of requirement, issue, distribution, procedure in the event of loss of CHDR</li> </ul>		
	<p><b>6. Baby Friendly Hospital Initiative (BFHI)</b></p> <ul style="list-style-type: none"> <li>• Ten steps of BFHI</li> <li>• Evidence* for the ten steps of BFHI</li> <li>• Implementation of ten steps of BFHI</li> <li>• Accreditation of BFH</li> </ul>		
	<p><b>7. Code for monitoring on breast feeding and related products</b></p> <ul style="list-style-type: none"> <li>• Brief history of the Code, both international and national</li> <li>• Aims of the Code</li> <li>• Eight articles and their provisions in the Sri Lanka Code in brief</li> <li>• Violations and law enforcement</li> <li>• Monitoring of the Code</li> </ul>		
Skills	<b>E. Maternal death surveillance system</b>		
	<p><b>1. Maternal death surveillance system</b></p> <ul style="list-style-type: none"> <li>• Different methods of estimating maternal mortality</li> <li>• Trends of maternal mortality and statistics</li> <li>• Surveillance system in Sri Lanka</li> <li>• Successes and challenges</li> <li>• Proposed mechanisms</li> </ul>	Student presentation	6.0
	<p><b>2. Prevention of maternal mortality – Case studies</b></p> <ul style="list-style-type: none"> <li>• Analysis of cases of maternal deaths</li> <li>• Discussion on the issues and preventive strategies</li> </ul>	Student presentation	6.0
Knowledge	<b>F. Infant and childhood morbidity and mortality</b>	Lectures	9.0
	<p><b>1. Morbidity</b></p> <ul style="list-style-type: none"> <li>• Vision and hearing problems among children</li> <li>• Common childhood problems in hearing and vision</li> <li>• Management</li> </ul> <p>Prevention</p>		
Knowledge	<p><b>2. Integrated Management of Childhood diseases (IMCI)</b></p> <ul style="list-style-type: none"> <li>• WHO strategy on IMCI</li> <li>• Sri Lankan situation and adaptation to Sri Lanka</li> <li>• National Programme</li> </ul>		
	<p><b>3. Feto-infant mortality surveillance</b></p> <ul style="list-style-type: none"> <li>• Current system and proposed mechanism</li> <li>• Benefits and challenges</li> </ul>		
	<b>G. Child Development &amp; Special Needs</b>	Lectures	9.0

	<p><b>1. Normal development</b></p> <ul style="list-style-type: none"> <li>• Normal development and developmental assessment among children</li> <li>• National Child Development Programme</li> </ul>		
	<p><b>2.Common developmental disorders among children</b></p> <ul style="list-style-type: none"> <li>• PDD-ASD</li> <li>• Learning disorders</li> </ul>		
	<p><b>3.Physical disabilities among children</b></p> <ul style="list-style-type: none"> <li>• Cerebral palsy</li> <li>• Other physical problems</li> </ul>		
	<p><b>4.Behavioural and emotional disorders among childhood and adolescence</b></p> <ul style="list-style-type: none"> <li>• ADHD</li> <li>• CD</li> <li>• ODD</li> <li>• Anxiety</li> <li>• Depression</li> </ul>		
	<p><b>H. School &amp; Adolescent Health</b></p>	Lectures	12.0
	<p><b>1.School Health Programme in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Programme evolution</li> <li>• Importance and objectives of the Programme</li> <li>• Components and implementation</li> <li>• Coverage and challenges</li> </ul>		
	<p><b>2.School health Programme evaluation &amp; management</b></p> <ul style="list-style-type: none"> <li>• Information system</li> <li>• Current system and MIS</li> <li>• Monitoring indicators and Programme evaluation</li> </ul>		
Knowledge	<p><b>3.Adolescent Health</b></p> <ul style="list-style-type: none"> <li>• Growth &amp; Development during adolescence &amp; its implications on health</li> <li>• Common Health issues /risk behaviours among adolescents in Sri Lanka</li> <li>• Adolescent Sexual &amp; Reproductive Health (ASRH) &amp; ASRH rights</li> <li>• Health promotion including MH promotion NCD prevention &amp; substance use prevention</li> <li>• Service delivery models for adolescents</li> <li>• Roles &amp; responsibilities of health personnel in promoting adolescent health</li> </ul>		
	<p><b>4.Child abuse</b></p>		

	<ul style="list-style-type: none"> <li>• Legal framework in child protection</li> <li>• Prevention of child abuse –Roles &amp; responsibilities of health personnel</li> </ul>		
	<p><b>5.Life skills development among children</b></p> <ul style="list-style-type: none"> <li>• Life skills development and its benefits</li> <li>• Components</li> <li>• Implementation at all levels</li> </ul>		
	<p><b>I. Women’s Health and RH problems</b></p>	Lectures	9.0
	<p><b>1.Reproductive tract malignancies – Prevention &amp; Management</b></p> <ul style="list-style-type: none"> <li>• Common reproductive organ malignancies (cervical, breast, uterine, prostatic cancers etc)</li> <li>• Aetiology, clinical presentation</li> <li>• Management and prevention</li> </ul>		
	<p><b>2.Well woman clinic programme</b></p> <ul style="list-style-type: none"> <li>• Rationale and objectives</li> <li>• Implementation of Programme</li> <li>• Cervical screening laboratories</li> <li>• Monitoring and evaluation</li> <li>• Challenges</li> </ul>		
	<p><b>3.Menopause &amp; its related problems</b></p> <ul style="list-style-type: none"> <li>• Epidemiology</li> <li>• Clinical manifestations</li> <li>• Management and health promotion</li> </ul>		
	<p><b>4.New packages on women’s health</b></p> <ul style="list-style-type: none"> <li>• Health of migrants- proposed strategies</li> </ul>		
Knowledge	<p><b>J. Gender and Gender Based Violence</b></p>	Lectures	6.0
	<p><b>1.Gender and Gender based violence</b></p> <ul style="list-style-type: none"> <li>• Concepts, terms &amp; issues related to sex &amp; gender</li> <li>• Impact of gender on health.</li> <li>• Male participation</li> </ul>		
	<p><b>2.Reproductive health rights</b></p> <ul style="list-style-type: none"> <li>• Towards gender equity &amp; equality in health</li> <li>• Awareness on Gender Based Violence (GBV)</li> <li>• Availability of services to combat GBV</li> <li>• Roles &amp;responsibilities of the health personnel in preventing / managing GBV</li> <li>• Building partnerships / inter-sectoral collaboration</li> </ul>		
	<p><b>3.Women's Charter</b></p>		

	<b>4.Domestic Violence Act</b>		
	<b>K. Family Planning</b>	Lectures	12.0
	<b>1.Family Planning (FP)</b> <ul style="list-style-type: none"> <li>• National Family Planning Programme</li> <li>• History</li> <li>• Objectives and strategies of NFPP</li> <li>• Methods available</li> <li>• Implementation</li> <li>• Achievements and challenges</li> </ul>		
	<b>2.Health and social benefits of FP</b> <ul style="list-style-type: none"> <li>• Health benefits</li> <li>• Social and economic benefits of FP</li> <li>• Research evidence</li> </ul>		
	<b>3.Contraceptive technology</b> <ul style="list-style-type: none"> <li>• Discuss the all methods available in the National Family Planning Programme in terms of mode of action, benefits, disadvantages, contraindications, success and failure rate, management of side effects</li> </ul>		
	<b>4.Medical eligibility criteria for FP</b>		
	<b>5.Principles of counseling and FP counseling</b> <ul style="list-style-type: none"> <li>• General principles in counseling</li> <li>• Application to FP Programme</li> </ul>		
	<b>6.Subfertility</b> <ul style="list-style-type: none"> <li>• Statistics</li> <li>• Aetiology&amp; Management</li> <li>• Role of PHC staff in subfertility</li> <li>• Contraceptive logistics</li> <li>• Logistics management system on FP</li> <li>• Estimation, forecasting, supply and distribute on</li> <li>• Issues in logistics</li> </ul>		
Knowledge	<b>L. Monitoring of MCH FP Programme</b>	Lectures	6.0
	<b>1.Management Information system on MCH</b> <ul style="list-style-type: none"> <li>• Current Management Information system</li> <li>• Records and returns used at different levels</li> <li>• Implementation</li> <li>• Challenges</li> <li>• Way forward</li> </ul>		
	<b>2.Monitoring and evaluation of MCH Programme</b> <ul style="list-style-type: none"> <li>• Methods of monitoring of MCH Programme</li> </ul>		

	<ul style="list-style-type: none"> <li>• Supervision system and its implementation</li> <li>• Evaluation of services using indicators at all levels</li> </ul>		
Skills	<b>3.Organization of MCH services in a:</b> <ul style="list-style-type: none"> <li>• Newly carved out MOH area and</li> <li>• Special situation</li> </ul>	Student presentation	3.0
	<b>4.Critical discussion on the roles of:</b> <ul style="list-style-type: none"> <li>• Present staff involved in MCH &amp; how they be used to provide comprehensive family care</li> <li>• Implications of this on the quality of MCH care?</li> </ul>		3.0
	<b>M. Clinical procedures : Demonstration</b>	Clinicals	12.0
<b>Assessment : End of term combined assignment</b>			
<b>Number of hours: Lectures=99; Student Presentations=15; Clinical (Demonstrations)=12.0</b>			
<b>Credit points = 6.6 + 0.5 = 0.3 = 7.4</b>			

**Reading Material:**

**MCH overall**

1. National MCH Policy.
2. Annual reports on Family Health – till 2010.
3. MCH Quarterly– Newsletters of FHB
4. Demographic and Health surveys - 1987, 1993, 2000, 2006/7.
5. Modules of Programme planning models 1/2/3.
6. MIS Guide for PHM.
7. Supervision tools on PHM/SPHM/PHNS.
8. Duty lists of Public Health Staff.
9. Reproductive Health strategy – WHO Geneva.
10. Accelerating progress towards the attainment of international reproductive health goals –WHO Geneva.
11. National Level Monitoring Of The Achievement Of Universal Access To Reproductive Health. WHO Geneva.

**Child Nutrition:**

1. Sri Lanka Code for Promotion, Protection, and Support of Breastfeeding and marketing of designated products.
2. Breastfeeding Counseling; A training Course, FHB, 2011.
3. Baby Friendly Hospital Initiative; A 20 hour course for maternity staff.
4. Breastfeeding; A guide for the medical professionals, Lawrence and Lawrence.
5. Child Health Development Record.
6. Medical Research Institute (MRI) publications on Nutrition surveys - e.g. Nutrition & Food Security Assessment in Sri Lanka 2010, Surveys on Vitamin A, Anemia, Iodine, etc
7. Guidelines on IYCF.
8. Protocol for managing malnutrition among under five children in the community.
9. Guideline for feeding infants and preschool children (1-5 yrs) including orphans during an emergency situation.
10. Guideline on De-worming children and pregnant women in community setting.

11. Circulars on Vitamin A, BMS Code, Thripasha.
12. Management of Severe Acute Malnutrition - Manual for Health Workers.
13. Indicators for assessing IYCF practices- WHO document.

#### **Adolescent Health:**

1. ABC of Adolescence - BMJ series.
2. Adolescent Job Aid -WHO publication.
3. Preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries -WHO guidelines.
4. Lancet series on Adolescent Health -2012 [including Worldwide application of prevention science in adolescent health].
5. Making services Adolescent Friendly -WHO guide.

#### **Maternal and Newborn Health:**

1. Packages of interventions for family planning, safe abortion care, maternal, newborn and child health \_WHO publication.
2. Born Too Soon- The global action report on pre-term birth.
3. Maternal Care Package – A Guide to Field Healthcare Workers, Family Health Bureau, Ministry of Health (2011).
4. Home deliveries in Sri Lanka – FHB publication.
5. Postpartum care; A guide for field MCH staff, FHB, 2007.
6. Labour Room Management Guideline, FHB, 2007.
7. National Strategic Plan on Maternal and Newborn Health, 2012-2016.
8. Pregnancy, Childbirth, Postpartum and Newborn Care; A guide for essential practice.
9. WHO Essential Newborn Care Course; Training Manual.
10. Lancet Neonatal Series.

#### **Maternal Mortality:**

1. *Beyond the numbers: reviewing maternal deaths and complications to make pregnancy safer.* Geneva: World Health Organization; 2004.
2. Maternal Mortality Reduction in Sri Lanka. Dr N.W. Vidyasagara. Pub: WHO, 2003. VishvaLekha Printers, Ratmalana, Sri Lanka. ISBN: 955-599-359-9.
3. Maternal Care Package – A Guide to Field Healthcare Workers, Family Health Bureau, Ministry of Health (2011).
4. Measuring maternal mortality: An overview of opportunities and options for developing countries, WJ Graham, S Ahmed, C Stanton, CL Abou-Zahr and OMR Campbell, BMC Medicine 2008, 6:12 (Available from: <http://www.biomedcentral.com/1741-7015/6/12>).

#### **Feto-Infant Mortality:**

1. Fetal and Infant Mortality Review Manual: A Guide for Communities (2nd Edition) - [http://www.nfimir.org/publications/Fetal\\_and\\_Infant\\_Mortality\\_Review\\_Manual\\_A\\_Guide\\_for\\_Communities\\_2nd\\_Edition](http://www.nfimir.org/publications/Fetal_and_Infant_Mortality_Review_Manual_A_Guide_for_Communities_2nd_Edition).
2. Surveillance on Perinatal Mortality- General Circular No: 1 05/2006.
3. The Lancet Stillbirths Series Papers (2011) -<http://www.thelancet.com/series/stillbirth>.

**Nutrition**  
**MSc/CD-08**

**Competencies:**

1. Application of knowledge on nutrition for conducting nutritional surveys and identification of problems.
2. Planning, implementing, monitoring and evaluation of public nutrition programmes
3. Planning programmes in nutrition during emergency situations
4. Advocacy, research and networking with relevant stakeholders

**Objectives:**

To be able to

1. describe the nutritional situation and ongoing interventions of the country
2. describe the assessment of nutritional status at individual and population levels
3. discuss the role of nutrition in infection
4. describe food composition tables, and diet planning concepts
5. describe food additives and its advantages
6. describe prevention and control programmes in relation to non communicable diseases and micro nutrient deficiencies

<b>Domain</b>	<b>Content</b>	<b>Mode of delivery</b>	<b>Time-hours</b>
Knowledge	<b>1.Introduction to nutrition</b> <ul style="list-style-type: none"> <li>• Prevalence / present nutrition scenario</li> <li>• Multisectoral approach in improvement of nutritional status</li> </ul>	Lecture	1.5
	<b>2.Understanding causes of malnutrition</b> <ul style="list-style-type: none"> <li>• Immediate causes</li> <li>• Underlinecause</li> <li>• Basiccauses</li> </ul>	Lecture	1.5
	<b>3.Measuring malnutrition in population</b> <ul style="list-style-type: none"> <li>• Rapid assessment</li> <li>• Surveillance</li> <li>• Surveys</li> </ul>	Lecture	1.5
	<b>4.Measuring malnutrition in individuals</b> Importance of measuring malnutrition Direct- Anthropometry, biochemical & biophysical methods & clinical assessment Indirect – vital statistics & dietary surveys	Lecture	1.5
	<b>5.Nutrition &amp; NCD</b> <ul style="list-style-type: none"> <li>• Importance of nutrition in the origin of NCD</li> <li>• Importance of life cycle</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Effect of overweight, obesity</li> <li>• Fast foods &amp; its contents</li> <li>• How to prevent NCD</li> </ul>		
Knowledge	<b>6.Nutrition requirements in life cycle</b> <ul style="list-style-type: none"> <li>• Key concepts in making energy &amp; nutrient recommendations</li> <li>• Energy &amp; nutrient requirements of different age groups</li> </ul>	Lecture	1.5
	<b>7.Nutrition &amp; infections</b> <ul style="list-style-type: none"> <li>• Vicious cycle of malnutrition</li> <li>• Effects of nutrition on immunity</li> <li>• Effects of immunity on nutrition</li> <li>• Types of malnutrition which influence infection</li> <li>• Physical &amp; psycho social effects of malnutrition</li> <li>• Mechanisms by which infections affect nutrition</li> </ul>	Lecture	1.5
	<b>8.Diet &amp; disease</b> <ul style="list-style-type: none"> <li>• Trends in chronic disease &amp; possible reasons</li> <li>• Dietary approaches to present chronic disease</li> </ul>	Lecture	1.5
	<b>9.Supplementary feeding</b> <ul style="list-style-type: none"> <li>• Definition &amp; objectives of supplementary feeding types, bench marks used to guide interventions, on site &amp; take home rations</li> <li>• Examples for supplementary foods (Thripasha&amp; super cereal plus) feature of supplementary foods</li> <li>• Admission criteria for SFP for MAM child &lt; 5 yrs</li> <li>• Follow up of SFP &amp; MAM children</li> <li>• Discharge criteria for SFP for MAM children</li> </ul>	Lecture	1.5
	<b>10.Food Based Dietary guidelines (FBDG)</b> <ul style="list-style-type: none"> <li>• Why we need a guideline?</li> <li>• Components of FBDG</li> <li>• Food groups and serving sizes</li> </ul>	Lecture	1.5
	<b>11.Dietary concepts</b> <ul style="list-style-type: none"> <li>• What is a balanced diet?</li> <li>• Diet concepts; food groups, food portions</li> <li>• Diets around the world and its concepts</li> </ul>	Lecture	1.5
	<b>12.Basics in food processing, functional foods and health</b> <ul style="list-style-type: none"> <li>• Why we need to process food?</li> <li>• Traditional and new processing techniques: scientific background</li> <li>• Definition of functional foods, with examples and principle mechanisms</li> </ul>	Lecture	1.5

Knowledge	<b>13.Introduction to food composition tables</b> <ul style="list-style-type: none"> <li>• Food databases and amounts of nutrients represented, why we choose these nutrients</li> <li>• Errors in using food composition tables / databases applications; household survey, nutritional epidemiology, research, food balance sheets, consumer intake studies, food safety studies.</li> </ul>	Lecture	1.5
	<b>14.Therapeutic feeding</b> <ul style="list-style-type: none"> <li>• Different stages of malnutrition: GAM, MAM, SAM</li> <li>• Types of supplementary foods (Therapeutic)</li> <li>• Diagnosis of malnutrition stage for therapeutic feeding</li> <li>• Locally available therapeutic foods</li> </ul>	Lecture	1.5
	<b>15.Nutrition Surveillance</b> <ul style="list-style-type: none"> <li>• What is surveillance?</li> <li>• Difference between surveys and surveillance</li> <li>• How to develop surveillance system</li> <li>• Sri Lankan situation</li> <li>• Uses of surveillance system</li> </ul>	Lecture	1.5
	<b>16. Nutrition strategic plan and District Nutrition Action Plan.</b> <ul style="list-style-type: none"> <li>• Why need a policy?</li> <li>• Sri Lankan situation</li> <li>• Implementation of nutrition policy</li> <li>• How to develop strategic plan and District Nutrition Action Plan.</li> </ul>	Lecture	1.5
	<b>17.Nutrition in Emergencies</b> <ul style="list-style-type: none"> <li>• Types of emergencies</li> <li>• Measures adopted</li> </ul>	Lecture	1.5
Skills	<b>18. Micro-nutrient malnutrition</b> <ul style="list-style-type: none"> <li>• Vit. A deficiency</li> <li>• Iron deficiency</li> </ul>	Seminar*	1.5
	<b>19.Micronutrient malnutrition</b> <ul style="list-style-type: none"> <li>• Iodine deficiency disorders (IDD)</li> </ul>	Seminar*	1.5
	<b>20.Nutrition Interventions</b>	Seminar*	1.5
	<b>21.Prevention and control of NCDs</b>	Seminar*	1.5
<b>Assessment: End of term combined assignment</b>			
<b>Number of hours: Lectures = 25.5 : *Student Presentations= 6.0</b>			
<b>Credit points = 1.7 + 0.2 = 1.9</b>			

**Reading Material:**

1. Food Based Dietary Guidelines -Nutrition Division, Ministry of Health.
2. National Nutrition Policy -Ministry of Health.
3. Assessment of Nutritional Status of School Children Reference Growth Charts- FHB 2010.
4. The National policy & Strategic Framework for Prevention and control of chronic NCDs – Ministry of Health 2010.
5. Desk Review on Nutrition Surveys 2006-2011 - Nutrition Co ordination Division/UNICEF.
6. Maternal care package –A guide to Field Healthcare workers - FHB 2011.
7. Guidelines for NCD prevention -Ministry of Health.
8. Guideline for Management of NCDs in Primary Health Care (Total Risk Assessment Approach) Ministry of Health 2012.
9. Manual for NCD screening Ministry of Health 2012.
10. Demographic and Health Survey (DHS) 2006-07.
11. Assessment of Anaemia Status in Sri Lanka – MRI.
12. Management of severe under nutrition- Manual for health workers in Sri Lanka- Ministry of Health 2007.
13. Factors associated with Complementary feeding in Sri Lanka Ministry of Health 2008.
14. Iodine deficiency status in Sri Lanka – MRI 2010.
15. Assessment of Nutritional Status and Food Security Levels among Resettled Families- MRI 2010.
16. Overview of the International food safety Authority Network [INFOSAN] in the Member States of the WHO South –East Asia Region –WHO.
17. Nutrition and Food Security Assessment in Sri Lanka- MRI 2010.
18. Health Sector Guidelines to Prepare District Nutrition Action Plan (DNAP) -Nutrition Co ordination Division/ WHO.

**Non Communicable Diseases**

**MSc/CD-09**

**Competencies:**

1. Initiation of programs directed towards life style modification
2. Prevention and management of NCDs at community level
3. Strengthening screening for NCDs and the risk factors at the community level

**Objectives:**

To be able to

1. Describe categorization of major NCDs
2. Describe global and local epidemiology of NCDs
3. Describe global action plans and indicators and targets for NCD prevention
4. Discuss national NCD policies and its implementation
4. Evaluate evidence based interventions for prevention of NCD
5. Describe surveillance systems available for NCDs

Domain	Content	Mode of Delivery	Time – hrs
Knowledge	<b>1.Introduction: Chronic NCD</b> <ul style="list-style-type: none"> <li>• Difference between acute and chronic NCDs</li> <li>• Distribution of NCDs globally and compared with the SEAR</li> <li>• Distribution and trends of NCDs in Sri Lanka</li> <li>• Socioeconomic dimensions in the development of NCDs</li> </ul>	Lecture	3.0
	<b>2.Risk factors for NCD</b> <ul style="list-style-type: none"> <li>• Risk factors for NCD</li> </ul> Smoking Alcohol Unhealthy diet Physical Inactivity <ul style="list-style-type: none"> <li>• Commonality of four major risk factors for development of major NCDs</li> </ul>	Lecture	3.0
	<b>3.Interventions to reduce NCDs</b> <ul style="list-style-type: none"> <li>• Evidence based interventions to reduce NCD risk factors</li> <li>• Introduction of “Best Buys” and “Good Buys”</li> </ul>	Lecture	3.0
	<b>4.NCD Action plan</b> <ul style="list-style-type: none"> <li>• Global strategy for prevention of NCD</li> <li>• Introduction of current indicators and targets and challenges locally in achieving the targets</li> <li>• NCD policy in Sri Lanka and implementation</li> </ul>	Lecture	3.0
	<b>5.Surveillance</b> <ul style="list-style-type: none"> <li>• NCD surveillance systems and limitations</li> <li>• Challenges for developing good surveillance systems</li> <li>• Suggestions for improvement</li> <li>• Introduction of STEP surveillance</li> </ul>	Lecture	3.0
Knowledge	<b>6.National response</b> <ul style="list-style-type: none"> <li>• Introduce the National NCD programme</li> <li>• Use of Primary Health care for NCD management</li> <li>• Introduce the ‘Healthy life style centers’</li> </ul>	Lecture	3.0
	<b>7.Multiple risk factor approach</b> <ul style="list-style-type: none"> <li>• Introduce WHO/ISH risk prediction chart</li> <li>• Introduce Management protocol for NCD</li> <li>• Discuss the challenges in implementing new initiatives</li> </ul>	Lecture	1.5
	Global, Regional and National initiatives for NCD prevention	Lecture	1.5
	<b>8.Introduction: Acute NCD</b>	Lecture	3.0

	<ul style="list-style-type: none"> <li>• Intentional and unintentional injuries</li> <li>• Definitions and classifications of unintentional injuries</li> <li>• Epidemiology of unintentional injuries</li> <li>• Explain the epidemiological triad in injuries causation</li> <li>• Introduce Haddon matrix as injury prevention model</li> </ul>		
	<ul style="list-style-type: none"> <li>• Role of NCD Unit/ Ministry of Health on injury management</li> </ul>	Lecture	1.5
Skills	<ul style="list-style-type: none"> <li>• Role of other systems in the health sector for injury prevention</li> </ul>	SGD*	1.5
	<ul style="list-style-type: none"> <li>• Strengthening organizational capacity for injury management:                             <ol style="list-style-type: none"> <li>a. Pre-hospital care</li> <li>b. Emergency care</li> <li>c. Rehabilitation</li> </ol> </li> </ul>	SGD*	1.5
Knowledge	<ul style="list-style-type: none"> <li>• Injury surveillance system</li> </ul>	Lecture	1.5
<b>Assessments: End of term combined assignment</b>			
<b>Number of hours: Lectures = 27.0 ; *Small Group Discussions = 3.0</b>			
<b>Credit points = 1.8 + 0.1 = 1.9</b>			

**Reading Material:**

1. Global status report non communicable diseases-2010
2. Scaling up action against non communicable diseases: How much will it cost? WHO
3. WHO report on global tobacco epidemic 2011
4. Brief profile on tobacco control in Sri Lanka-ministry of Health Care and Nutrition
5. Prevention and control of selected NCDs in Sri Lanka-*Policy Options and Action*. 2010. Michael Engelgau, Kyoko Okamoto, Kumari Vinodhani Navaratne and Sundararajan Gopalan.
6. WHO. Diet, Physical Activity and Health. Geneva: World Health Organization, 2002
7. Low- and Middle-Income Countries From Burden to “Best Buys”: Reducing the Economic Impact of Non-Communicable Diseases

**General Administration & Public Health Management  
MSc/CD-10**

**Competencies:**

1. Function effectively as an administrator of an institution by demonstrating knowledge in office management
2. Being an effective and efficient manager in administering institutions/programmes
3. Provision of leadership skills as a middle level manager
4. Development of plans for the institution using principles of planning
5. Effectively contribute to policy making
6. Efficiency in planning, implementing and monitoring of programmes/projects

7. Implementing innovative quality and productivity programmes in the relevant institution
8. Function effectively in centralized and decentralized institutions
9. Competency in carrying out disciplinary procedures
10. Functioning as an efficient financial manager

**Objectives:**

To be able to

1. discuss principles of human resource management
2. describe office management practices
3. describe disciplinary procedures
4. describe basic principles of management
5. describe leadership skills in relation to motivating staff, team building, conflict resolution, supervision, change management
6. discuss principles of human resource management
7. describe office management practices
8. describe disciplinary procedures
9. discuss the health information system at present
10. discuss preparation of a proposal for a selected donor for funding
11. demonstrate use of planning and costing software

<b>Component 1: Healthcare Delivery System</b>			
<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1. Introduction to healthcare delivery system</b> <ul style="list-style-type: none"> <li>• What are the available healthcare delivery systems in the government and private sector</li> <li>• Strengths and weaknesses of each system</li> <li>• Functioning of healthcare delivery system within the decentralization</li> </ul>	Lecture	1.5
	<b>2. Allopathic healthcare delivery system</b> <ul style="list-style-type: none"> <li>• Organization structure</li> <li>• Curative health care delivery system</li> <li>• Re categorization of health institutions</li> <li>• Services provided by each level of care</li> <li>• Reorganization of PHC</li> <li>• Preventive health services</li> <li>• Organization of preventive health services</li> <li>• Role of line ministry programmes/directorates</li> <li>• Role of regional level health staff</li> <li>• Private healthcare system</li> </ul>	Lecture	1.5
	<b>3. Other health care delivery systems</b> <ul style="list-style-type: none"> <li>• Ayurveda/Siddha/Unani healthcare delivery systems</li> </ul>	Lecture	1.5

	including government and private sector <ul style="list-style-type: none"> <li>• Homeopathic healthcare delivery system including government and private sector</li> </ul>		
<b>Number of hours: Lectures = 4.5</b>			
<b>Component 2: General Administration</b>			
<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge Knowledge	<b>1.Human Resource Management (HRM)</b> <ul style="list-style-type: none"> <li>• HRM, its role, scope and importance in management</li> <li>• Factors influencing on HRM and key functions of HRM</li> <li>• Theoretical and conceptual framework of HRM</li> <li>• HRM in practice</li> </ul>	Lecture	3.0
	<b>2.How to maintain lines of communication</b> <ul style="list-style-type: none"> <li>• Letter writing</li> <li>• Organizational hierarchy</li> <li>• Lines of authority</li> <li>• Forms of communication</li> <li>• Interpretation of circulars</li> <li>• Letter writing for different levels</li> </ul>	Lecture	3.0
Knowledge	<b>3.File, vehicle , inventory &amp; consumables management</b> <ul style="list-style-type: none"> <li>• File management</li> <li>• Vehicle management</li> <li>• Inventory management</li> <li>• Consumables management</li> </ul>	Lecture	3.0
	<b>4.Supervision</b> <ul style="list-style-type: none"> <li>• What is supervision</li> <li>• What is supervisory authority?</li> <li>• Supervisory Functions</li> <li>• Supervisory skills , rules and principles</li> <li>• The supervisory skills needed by a medical administrator</li> </ul>	Lecture	1.5
	<b>5.Delegation of power according to the constitution</b> <ul style="list-style-type: none"> <li>• Powers of the Government of Sri Lanka</li> <li>• Powers delegated to provinces with regard to health</li> <li>• Powers with regard to human resource management</li> <li>• Powers with regard to research</li> <li>• Powers with regard to capital expenditure/projects</li> </ul>	Lecture	1.5
	<b>6.Disciplinary inquiries</b> <ul style="list-style-type: none"> <li>• What is a disciplinary inquiry</li> <li>• Steps in a preliminary investigation</li> <li>• Who is disciplinary authority</li> <li>• Preparation of investigation reports</li> </ul>	Lecture	3.0

	<ul style="list-style-type: none"> <li>• Preparation of a charge sheet</li> <li>• Disciplinary punishments</li> </ul>		
<b>Number of hours: Lectures = 15.0</b>			
<b>Component 3: Management</b>			
Knowledge	<b>1.Introduction to Management</b> <ul style="list-style-type: none"> <li>• What is management</li> <li>• Who are managers</li> <li>• Levels of management</li> <li>• Management process</li> <li>• Management skills</li> </ul>	Lecture	1.5
	<b>2.Leadership</b> <ul style="list-style-type: none"> <li>• What is leadership</li> <li>• Trait theory of leadership</li> <li>• Style and behavioural theories</li> <li>• Types of leadership</li> </ul>	Lecture	1.5
Knowledge	<b>3.Staff Motivation</b> <ul style="list-style-type: none"> <li>• What is motivation</li> <li>• Theories of motivation</li> <li>• Early theories</li> <li>• Contemporary theories</li> <li>• How to motivate employees</li> <li>• Motivating factors</li> <li>• Demotivating factors</li> <li>• Challenges</li> </ul>	Lecture	1.5
	<b>4.Management of conflicts at workplace</b> <ul style="list-style-type: none"> <li>• Outline the generation of conflict in the workplace</li> <li>• Define conflict management and discuss the advantages and disadvantages of conflicts in organization</li> <li>• Identify types of organizational conflict</li> <li>• Identify sources of organizational conflict</li> <li>• Outline styles of conflict management</li> <li>• Define negotiation, mediation &amp; arbitration</li> <li>• Discuss conflict preventing strategies</li> </ul>	Lecture	1.5
	<b>5.Japanese management practices, productivity and quality</b> <ul style="list-style-type: none"> <li>• 5S</li> <li>• Kizen in hospital management</li> <li>• Current productivity and quality programme</li> </ul>	Lecture	4.5
	<b>6.Implementation of productivity programme at MOH level</b>	Lecture	1.5
	<b>7.Organizational change</b>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• What is organizational change</li> <li>• Forces of change</li> <li>• Three stages approach to organizational change</li> <li>• Dealing with resistance to change</li> </ul>		
Knowledge	<b>8.Role of a Public Health Manager</b> <ul style="list-style-type: none"> <li>• Present health status</li> <li>• Challenges faced y curative health sector</li> <li>• Challenges faced by public health sector</li> <li>• How to face challenges</li> </ul>	Lecture	1.5
<b>Number of hours: Lectures = 15.0</b>			

<b>Component 4: Health Information System (HIS)</b>			
<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.Development of HIS in Sri Lanka</b> <ul style="list-style-type: none"> <li>• The strengths and weakness of the present HIS</li> <li>• e-health initiatives taken in the health sector</li> <li>• Discuss the planned HIS for the future</li> </ul>	Lecture	3.0
<b>Number of hours: Lectures = 3.0</b>			

<b>Component 5: Planning</b>			
<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1. Introduction to planning</b> <ul style="list-style-type: none"> <li>• What is a plan</li> <li>• Why planning is needed</li> <li>• Advantages and disadvantages of planning</li> <li>• Types of plans</li> <li>• What is a project and a programme</li> <li>• Results based planning</li> </ul>	Lecture	1.5
	<b>2. Definition of key terms</b> <ul style="list-style-type: none"> <li>• What are the vision, mission, target, strategy, objectives, outcome, and output?</li> <li>• Study vision, mission, target, strategy, objectives, outcome, output of selected programmes</li> <li>• What is an indicator?</li> <li>• Defining indicators</li> <li>• Setting up targets</li> <li>• Interpreting progress/ understanding situation based on indicators</li> </ul>	Lecture	1.5

	<b>3. Situation analysis</b> <ul style="list-style-type: none"> <li>• What is situation analysis</li> <li>• Different methods used in situation analysis</li> <li>• Identification of a problem/ gap</li> </ul>	Lecture	1.5
Skills	<b>4. Situation analysis of a selected:</b> MOH area Programme Hospital	Practical	1.5
Knowledge	<b>5. Use of Logical framework analysis and Logical Framework Matrix (LFA) in planning</b> <ul style="list-style-type: none"> <li>• What is LFA</li> <li>• How to complete LFA</li> <li>• What is Logical Framework matrix</li> <li>• How to complete Logical Framework matrix</li> </ul>	Lecture	3.0
<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Skills	<b>6. Application of LFA to the selected problem</b>	Practical	1.5
	<b>7. Structure and content of a activity plan</b> <ul style="list-style-type: none"> <li>• Components of a plan</li> <li>• Development of the plan accordingly</li> </ul>	Practical	1.5
Knowledge	<b>8. Risk management</b> <ul style="list-style-type: none"> <li>• What is risk management</li> <li>• Why is risk management necessary</li> <li>• How to maintain risk management register</li> <li>• How to develop a risk management plan</li> </ul>	Lecture	1.5
	<b>9. Monitoring and evaluation</b> <ul style="list-style-type: none"> <li>• What is monitoring</li> <li>• What is evaluation</li> <li>• Why is it necessary to carry out monitoring an evaluation</li> <li>• How to carry out monitoring and evaluation</li> <li>• Comparison of Advantages and disadvantages of monitoring and evaluation</li> </ul>	Lecture	1.5
Skills	<b>10. Time management and demonstration of Microsoft (MS) project software and a planning and monitoring tool</b> <ul style="list-style-type: none"> <li>• What is time management</li> <li>• How to carry out time management(activity on nodes method, activity on arrows method)</li> <li>• How to develop a Gantt chart</li> <li>• How to use MS project in time management</li> </ul>	Practical	3.0
Skills	<b>11. A software health tool to cost public health plans</b>	Practical	10.5

	<ul style="list-style-type: none"> <li>• How to use the tool</li> <li>• What are the assumptions</li> <li>• How to forecast cost using the tool</li> <li>• Completion of “plans”</li> </ul>		
Skills	<b>12. Presentation of “plans”</b>	Seminar	1.5
<b>Number of hours: Lectures = 10.5; Practical = 18.0; Student presentation = 1.5</b>			

<b>Component 6: Global Health</b>			
<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1. International donors and their contribution to health</b> <ul style="list-style-type: none"> <li>• Role of WHO, UNICEF, UNFPA, World Bank, JICA, KOICA, INGOs in the health sector</li> <li>• Bi lateral donors,</li> <li>• Partners in the development of health sector</li> </ul>	Lecture	1.5
	<b>2. National planning priorities &amp; process of funding</b> <ul style="list-style-type: none"> <li>• How to apply for funding through external resources department</li> </ul>	Lecture	1.5
	<b>3. How to develop a proposal for funding</b> <ul style="list-style-type: none"> <li>• How to identify a donor for a health project</li> <li>• How to write a proposal to suit the donor requirements.</li> </ul>	Lecture	1.5
<b>Number of hours: Lectures = 4.5</b>			
<b>Total: Components 1 -6</b>			
<b>Number of hours: Lectures = 52.5 ; Practical + Student presentations = 19.5</b>			
<b>Credit points = 3.5 + 0.7 = 4.2</b>			

<b>Component 7: Public Health Policy</b>
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**Objectives:**

To be able to

1. Demonstrate knowledge regarding policy formulation process and the role of public health personal in policy formulation

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1. Policy making process in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Describe the process of policy making in Sri Lanka</li> <li>• Explain the role of public health personal in the process of policy making</li> </ul>	Student presentations: case studies	4.5

	<b>2. Government role in regulating health sector</b> <ul style="list-style-type: none"> <li>• Identify the government’s role in delivering public goods</li> <li>• Analyze the government role in health service regulation in Sri Lanka</li> </ul>	Lecture	3.0
<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
	<b>3. Basic principles in interpreting a legal text</b> <ul style="list-style-type: none"> <li>• Structure of a legal text</li> <li>• Different components</li> <li>• Importance of different components and interpreting legal text</li> </ul>	Student presentations:	6.0
Knowledge	<b>4. Legal framework for public health in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Existing legal framework on public health</li> <li>• Enforcement/ implementing current legislation and monitor their implementation</li> <li>• Review of national and international health related legislation and</li> <li>• Advise on updating existing legislation</li> <li>• Identify areas in which legislation is required and advocate for such legislation</li> </ul>	Student presentations: Small group discussion	9.0
	<b>5. International treaties and public health</b> <ul style="list-style-type: none"> <li>• International trade agreements related to health</li> <li>• Current debate on health as a commodity</li> </ul>	Lecture	3.0
	<b>6. Public private partnerships (PPP) in health systems</b> <ul style="list-style-type: none"> <li>• Principles of public private partnerships</li> <li>• Role of public sector in health the health partnerships</li> <li>• Case studies in PPP</li> </ul>	Lecture	3.0
<b>Number of hours: Lectures = 9.0 ; Student presentations = 19.5</b>			

***Component 8: Health, Human Rights and Ethics***

**Objectives:**

To be able to

1. describe rights based approach to public health
2. critically analyze public health services in the country in relation to human rights

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1. Health and human rights</b> <ul style="list-style-type: none"> <li>• International conventions of human rights and health</li> </ul>	Student presentations: Small	9.0

	<ul style="list-style-type: none"> <li>• Elements of rights base approach to health</li> <li>• Patients charter and global movement on right to health</li> <li>• Case studies from global, regional and local</li> </ul>	group discussion	
	<b>2. Concepts of equity, equality, liberty and security in relation to public policy</b> <ul style="list-style-type: none"> <li>• Equity, equality, liberty and security in relation to public health</li> <li>• Application of each of these concepts in public policy</li> </ul>	Lecture	3.0
Knowledge	<b>3. Ethics in public health practice</b> <ul style="list-style-type: none"> <li>• Evaluation of ethical issues in public health practice</li> <li>• Recognize ethical issues pertaining to providing services to special groups (eg: HIV/STI, contraceptives to premarital youth)</li> </ul>	Lecture	3.0
	<b>4. Medical negligence and litigation</b> <ul style="list-style-type: none"> <li>• Concept of medical negligence</li> <li>• Legal aspects of medical negligence</li> <li>• Measures to prevent medical negligence and litigation</li> </ul>	Lecture	3.0
	<b>5. Consumer activism in public health</b> <ul style="list-style-type: none"> <li>• History and evolution of consumer rights movement</li> <li>• Consumers right in obtaining Public Health Services</li> <li>• Consumer's role in development of public health services</li> <li>• Consumers role in advocacy for public friendly policies in health sector</li> </ul>	Lecture	3.0
<b>Number of hours: Lectures = 12.0; Small Group Discussion = 9.0</b>			

<b>Total: Components 7 + 8</b>
<b>Number of hours: Lectures = 12 + 9 = 21.0 ; Student presentations = 19.5 + 9.0 = 28.5</b>
<b>Credit points = 1.4 + 1.0 = 2.4</b>

***Component 9: Basic Health Economics***

**Competencies:**

1. Ability to cost healthcare services and application of economic principles in healthcare

**Objectives:**

To be able to

1. describe economic concepts related to market behaviour in healthcare
2. discuss basic tools of health economics analysis

Domain	Content	Mode of Delivery	Time – hrs
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Knowledge	<b>1.Demand and supply of healthcare</b> Utility, derived demand, price and other determinants of demand and supply, elasticity	Lecture	1.5
Knowledge	<b>2.Production of health care</b> • Combining factors of production and determining optimal output	Lecture	1.5
	<b>3.Market Structures in the health sector</b> • Analysis of outcomes given alternative market structures	Lecture	1.5
	<b>4.The health sector and the macro-economy</b> • Relationships between macroeconomic variables and the health sector and health outcomes: a. growth b. unemployment c. inflation d. budget deficits	Lecture	1.5
	<b>5.Costing of diseases, interventions and health institutions</b> • Concepts related to costing • Methods of costing inputs and services • Step down cost accounting • Scenario building technique	Lecture	1.5
	<b>6.Introduction to techniques of economic evaluation</b> • Cost minimization • Cost- effectiveness • Cost-benefit • Cost-utility analyses	Lecture	1.5
<b>Assessments: End of term combined assignment</b>			
<b>Number of hours: Lectures = 9.0</b>			
<b>Credit points = 0.6</b>			

**General Administration & Public Health Management****MSc/CM-10**

<b>Components</b>	<b>Total Hours</b>			<b>Credit Points</b>
	<b>Lectures</b>	<b>Student Presentations</b>	<b>Practicals</b>	
01 Healthcare Delivery System	4.5	-	-	4.2
02 General Administration	15.0	-	-	
03 Management	15.0	-	-	
04 Health Information System	3.0	-	-	
05 Planning	10.5	18.0	1.5	
06 Global Health	4.5	-	-	
07 Public Health Policy	9.0	19.5	-	2.4
08 Health, Human Rights and Ethics	12.0	9.0	-	
09 Basic Health Economics	9.0	-	-	0.6
<b>Total</b>	<b>82.5</b>	<b>46.5</b>	<b>1.5</b>	<b>7.2</b>

## Reading Material:

### Healthcare Delivery System, General administration, Management, Health Information System, Planning, Global Health:

1. Quantum Leadership: Advancing Information, Transforming Health Care. Tim Porter-O'Grady, Kathy Malloch.
2. Understanding Healthcare Financial Management. Louis C. Gapenski, George H. Pink.
3. Health Policy Issues: An Economic Perspective. Paul J. Feldstein
4. Evidence-Based Practice in Nursing & Healthcare: A Guide to Best Practice. Bernadette MazurekMelnyk, Ellen Fineout-Overholt.
5. Ethics in Health Administration: A Practical Approach for Decision Makers. Eileen E. Morrison.
6. Health Economics and Financing. Thomas E. Getzen.
7. Leadership Competencies for Clinical Managers: The Renaissance of Transformational Leadership. Anne M. Barker, Dori Taylor Sullivan, Michael J. Emery.
8. Essentials of Health Care Marketing. Eric N. Berkowitz.
9. Project Planning and Management: A Guide for CNLs, DNP's and Nurse Executives. James L. Harris, Linda A. Roussel, Sandra Walters , Catherine Dearman
10. Human Resource Management. Gary Dessler, BijuVarkkey 11<sup>th</sup> edition.
11. Management. Stephen P. Robins, Mary coulter, Neharika Vohra. 10<sup>th</sup> edition.
12. Organizational behaviour. Robins Judge. 13<sup>th</sup> edition.
13. Organizational Behavior, Theory, and Design in Health Care. Nancy Borkowski.
14. Understanding Health Policy, A Clinical Approach. Thomas Bodenheimer, Kevin Grumbach.
15. Economics for Healthcare Managers. Robert H. Lee.
16. Value Based Health Care: Linking Finance and Quality. Yosef D. Dlugacz.
17. Interpersonal Conflict. William Wilmot , Joyce Hocker.
18. The Well-Managed Healthcare Organization. Kenneth R. White, PhD, FACHE and John R. Griffith.
19. Managing Health Services Organizations and Systems. Beaufort B. Longest , Kurt Darr.
20. Delivery excellence in health and social care. Max Million.
21. Management principles for health. Joan GrettoLibbe, CharlerMcconnell.
22. Healthcare Operations Management. Daniel B. McLaughlin, John R. Olson.
23. Healthcare Strategic Planning. Alan M. Zuckerman.
24. Healthcare Facility Planning: Thinking Strategically. Cynthia Hayward

### Public Health Policy & Health, Human Rights & Ethics:

1. Weerasinghe, M C., Concerns for policy: Comprehensive Economic Partnership Agreement in relation to health sector. Journal of Community Physicians of Sri Lanka. 2008, 13 (1)
2. Website of World Trade organization- Legal text of GATS and TRIPS agreements- <http://www.wto.org/>
3. Website of Third World Network- <http://twinside.org.sg/fta.archives.htm>
4. Keane C R., Weerasinghe, M C., Public Private Mix in Health Systems. In: Kris Heggenhougen and Stella Quah, editors International Encyclopedia of Public Health, Vol 5. San Diego: Academic Press; 2008. pp. 440-447. ( available in Faculty of medicine Colombo Library)

**Health Economics:**

1. Economics. Begg, David, Fischer, Stanley and Dornbusch, Rudiger, McGraw-Hill Publishers Inc. 2005
2. Economics. Samuelson, Paul A and Nordhaus, William D, Irwin-McGraw-Hill 2009
3. [www.ips.lk/talkingeconomics/2011/04](http://www.ips.lk/talkingeconomics/2011/04)
4. [www.ips.lk/talkingeconomics/2013/04](http://www.ips.lk/talkingeconomics/2013/04)
5. Central Bank of Sri Lanka, Annual Reports
6. [http://www.ram.com.lk/reports/0313\\_healthcare\\_final.pdf](http://www.ram.com.lk/reports/0313_healthcare_final.pdf) (on private sector)
7. Rannan-Eliya, Ravi P., and LankaniSikurajapathy. 2008. Sri Lanka: “Good Practice” in Expanding Health Care Coverage.” Research Studies Series, Number 3, Colombo, Institute for Health Policy.
8. Drummond, M.F., O’Brien, B.J., Stoddart, G.I and Torrance, G.W – Methods for the Economic Evaluation of Health Care Programmes
9. de Silva, Amala, Samarage, S.M and Somanathan, Aparnaa, Review of Costing Studies in Sri Lanka 1990-2004, National Macroeconomics and Health Commission publication, 2007

**Social Welfare & Rehabilitation Services**

**MSc/CD-11**

**Competencies:**

1. Recognition of social welfare and rehabilitation needs of the community
2. Referring the disabled for appropriate care
3. Provision of advocacy

**Objectives:**

To be able to

1. Identify the social welfare and rehabilitation needs of the community
2. Outline the social welfare and rehabilitation services available
3. Advise on the social services and rehabilitation services available to the disabled

Domain	Content	Mode of Delivery	Time – hrs
Knowledge	<b>1.Introduction to Social Welfare and Rehabilitation</b> <ul style="list-style-type: none"> <li>• Definitions : Social welfare, rehabilitation</li> <li>• Conceptual basis for understanding the structure and dynamics of the social welfare system</li> <li>• Legislative &amp; Policy Framework, Human rights</li> </ul>	Lecture	1.5
	<b>2.Roles &amp; Functions of the Ministry of Social Welfare</b> <ul style="list-style-type: none"> <li>• Vision, Mission &amp; Objectives</li> <li>• Structure &amp; Functions</li> <li>• Institutions &amp; Services</li> </ul>	Lecture	1.5
	<b>3.Role of the Community &amp; NGOs in rehabilitation</b> <ul style="list-style-type: none"> <li>• Concept of community based rehabilitation</li> <li>• Basic principles of CBR</li> <li>• Multi-sectoral support</li> </ul>	Lecture	1.5
	<b>4.Social Rehabilitation</b> <ul style="list-style-type: none"> <li>• Meaning of social rehabilitation</li> <li>• Main social sectors involved</li> <li>• Social context of rehabilitation</li> <li>• Scope of social rehabilitation</li> </ul>	Lecture	1.5
	<b>5.Disability and Development</b> <ul style="list-style-type: none"> <li>• Definitions: Disability –social, physical, impairment, handicap,</li> <li>• Models of disability</li> <li>• Dimensions of disability</li> <li>• Development</li> <li>• Issues related to disability: poverty, attitudes</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Involving people with disabilities</li> <li>• Economics of disability</li> </ul>		
Knowledge	<b>6.Rehabilitation of differently-abled</b> <ul style="list-style-type: none"> <li>• Misconceptions</li> <li>• Conventions, Policies, Legislation</li> <li>• Empowerment &amp; Education</li> <li>• Social integration</li> <li>• Livelihood support</li> <li>• Mobility devises</li> <li>• Phsiotherapy</li> </ul>	Lecture	3.0
	<b>7.Field visit to Prosthetic &amp; Orthotic School &amp; workshop at RVS</b>	Field Visit	3.0
	<b>8.Rehabilitation of drug dependents</b> <ul style="list-style-type: none"> <li>• National Dangerous Drugs Control Board</li> <li>• Roles &amp; Functions</li> <li>• Rehabilitative services</li> <li>• Research</li> </ul>	Lecture	1.5
	<b>9.Field visit to a Treatment &amp; Rehabilitation Centre, Talangama</b>	Field Visit	3.0
<b>End of module assessment = Combine End of Term Assignment</b>			
<b>Number of hours: Lectures = 12.0 ; Field Visits =6.0</b>			
<b>Credit points = 0.8 + 0.4 = 1.2</b>			

**Reading material:**

1. Alailima P., Provision of Social Welfare Services, Sri Lanka Journal of Social Sciences, 1995, 18(1 & 2)
2. National policy on disability for *Sri Lanka* - Ministry of *Social Services*
3. MendisPadmini, Disability and Community Based Rehabilitation (in Sinhala)
4. MendisPadmini, Community Leadership and Community Based Rehabilitation in Sri Lanka
5. [www.socialwelfare.gov.lk/web/images/stories/pdf/.../disability\\_policy.pdf](http://www.socialwelfare.gov.lk/web/images/stories/pdf/.../disability_policy.pdf)
6. <http://www.businessdictionary.com/definition/social-welfare.html#ixzz2TbLUMuJ4>
7. <http://www.nisd.lk/web/index.php/en/component/content/article/122-article3.html>
8. <http://www.nddcb.gov.lk/index.html>
9. <http://www.nddcb.gov.lk/services.html>

## **Health Promotion**

### **MSc/CD-12**

#### **Competencies:**

1. Educate and motivate people at individual and family level to adopt positive health behaviours
2. Plan, implement and evaluate health promotion programmes
3. Effective use of participatory approach in health education and health promotion
4. Conduct counseling sessions and follow up of counselees
5. Identification and use of community based resources to promote health, ensuring inter-sectoral collaboration and community participation
6. Carrying out advocacy in public health related issues

#### **Objectives:**

To able to:

1. describe the definitions of health, health promotion, health education, primary health care and public health
2. discuss the meaning of community, society, community health and public health
3. identify the organization of health education services in Sri Lanka
4. identify the concept, process, types and barriers for communication
5. identify basic communication skills and how to improve them
6. discuss the factors affecting human behavior
7. identify the concept, steps and uses of Behaviour Change Communication
8. identify the concept, steps and uses of Social Marketing
9. describe the objectives, principles and methods of health education
10. define counseling and list the steps in counseling
11. identify situations for counseling of individuals, families and groups
12. conduct counseling sessions and follow up counselees
13. identify the main characteristics and principles of preparation of IEC (Information-Education-Communication) Material / Health Learning Material (HLM)
14. describe definition, importance and levels of Inter-sectoral cooperation
15. identify the principles of making an community diagnosis and an educational diagnosis
16. discuss the definition and process of advocacy
17. define health promotion settings
18. discuss settings approach in health promotion especially in the community, occupational settings, schools and hospitals
19. discuss the features of health promotion policy and the challenges for its implementation
20. describe the definition, types and uses of participatory methods

Domain	Content	Mode of Delivery	Time Hrs
Knowledge	<b>1.Introduction to the basic concepts</b> <ul style="list-style-type: none"> <li>• Health, Public Health</li> <li>• Community Health</li> <li>• Health Promotion</li> <li>• Health Education and Primary Health Care</li> <li>• Community &amp; Society</li> </ul>	Lecture	1.5
	<b>2.Organisation of Health Education Services in Sri Lanka</b> <ul style="list-style-type: none"> <li>• Structure and the functions of HEB,</li> <li>• Organization of the Provincial Health Educational Services</li> <li>• Hospital Health Education activities</li> </ul>	Lecture	1.5
	<b>3.Introduction to Communication</b> <ul style="list-style-type: none"> <li>• The concept of communication</li> <li>• Process of communication</li> <li>• Types of communication</li> <li>• Communication barriers</li> <li>• Requirements for effective communication</li> </ul>	Lecture	1.5
	<b>4.Communication skills</b> <ul style="list-style-type: none"> <li>• Reading skills (SQ4 Method)</li> <li>• Checking one’s reading speed</li> <li>• Active listening skills</li> <li>• Skills in delivering a health education talk</li> <li>• Checklist for assessing a health education session/ communication skill</li> <li>• Technical writing</li> <li>• Use of pronunciation marks</li> <li>• Study skills,</li> <li>• Effective note taking</li> <li>• Electronic communication skills: surfing internet; email; blogging; social networking; web publishing; tweeting</li> <li>• Conducting a group discussion</li> <li>• Checklist to assess the effectiveness of a group discussion</li> </ul>	Lecture	3.0
	<b>5.Human behavior and behaviour change</b> <ul style="list-style-type: none"> <li>• Factors affecting human behavior: Genetics, Core faith and culture, social norms, attitudes, emotions, values, ethics, authority, rapport, hypnosis, persuasion, coercion</li> <li>• Explaining human behaviour: theoretical principles and models used to understand and influence the behavioral aspects of health and illness</li> </ul>	Lecture	1.5

Domain	Content	Mode of Delivery	Time -Hrs
Knowledge	<p><b>6.Behaviour Change Communication (BCC)</b></p> <ul style="list-style-type: none"> <li>• What is BCC</li> <li>• The process of BCC</li> <li>• BCC steps</li> <li>• Development of a BCC intervention</li> <li>• BCC Pyramid</li> <li>• Uses of BCC</li> <li>• Limitations of BCC</li> </ul>	Lecture	3.0
	<p><b>7.Social Marketing</b></p> <ul style="list-style-type: none"> <li>• What is Social Marketing</li> <li>• Applications</li> <li>• Types</li> <li>• COMBI</li> <li>• IEC</li> <li>• Communication Strategic Plan</li> </ul>	Lecture	1.5
	<p><b>8.Introduction to health education</b></p> <p>Definition, objectives of health education</p> <p>Principles of health education</p> <p>Methods of health education</p> <p>Steps in planning a health education program</p> <p>Evaluation of community based health education program</p>	Lecture	3.0
	<p><b>9.Human behavior and Social Sciences</b></p> <ul style="list-style-type: none"> <li>• What is science</li> <li>• When the knowledge is considered scientific</li> <li>• Scientific method,</li> <li>• Difference between social and physical sciences</li> <li>• How human behaviour is analyzed in the social sciences: Anthropology, Sociology, Economics, Politics, Geography / Ecology, Linguistics</li> </ul>	Lecture	3.0
	<p><b>10.Community Diagnosis and Educational Diagnosis</b></p> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Importance</li> <li>• Methods</li> <li>• Instruments for community diagnosis and educational diagnosis</li> </ul>	Lecture	1.5

Domain	Content	Mode of Delivery	Time Hrs
Knowledge	<b>11.IEC (Information-Education-Communication), HLM Health Learning Material</b> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Characteristics of good IEC / HLM</li> <li>• Classification</li> <li>• Principles of preparation</li> <li>• Pretesting of IEC / HLM</li> </ul>	Lecture	3.0
Skills	<b>12.Counselling</b> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Models of counseling</li> <li>• Client-centered (humanistic) counseling</li> <li>• Empathisation</li> <li>• Identification of situations for counseling</li> <li>• Steps in counseling</li> <li>• Evaluation of a counseling session</li> </ul>	Lecture  Role play	3.0
Knowledge	<b>13.Intersectoral cooperation</b> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Importance of inter-sectoral cooperation</li> <li>• Levels</li> <li>• Other sectors of importance with regard to health development, their contribution to health development</li> </ul>	Lecture	1.5
Knowledge	<b>14.Advocacy</b> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Forms</li> <li>• Advocacy groups</li> <li>• Public health advocacy</li> </ul>	Lecture	1.5
Knowledge	<b>15.Health Promotion</b> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Ottawa Charter</li> <li>• Differences between health education and health promotion</li> <li>• Ottawa Charter's Health Promotion Action Areas</li> <li>• Health Promotion Settings</li> <li>• Health Promoting Schools</li> </ul>		3.0

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time - Hrs</b>
Knowledge	<b>16.Community participation and participatory methods</b> <ul style="list-style-type: none"> <li>• Definition of participation</li> <li>• Definition of participatory methods</li> <li>• Types of participatory methods</li> <li>• Their uses and limitations,</li> <li>• Ensuring community participation</li> </ul>		3.0
	<b>17.Mental health promotion and Life skills</b> Mental health promotion: what is it? Evidence based approached to mental health promotion Indicators of improved mental health Child friendly schools Life skills Training on life skills Collaboration of health and educational sectors		1.5
	<b>18.Health Promotion in the community: community empowerment</b> <ul style="list-style-type: none"> <li>• What is empowerment</li> <li>• Challenges in empowering individuals</li> <li>• Success stories in health promotion in the community</li> </ul>		3.0
	<b>19.Hospital Health Promotion</b> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Health promoting hospital guidelines (Budapest Declaration) Activities of a health promoting hospital</li> <li>• Quality in patient care</li> <li>• Clinical governance</li> </ul>		1.5
	<b>20.Health Promotion Policy</b> <ul style="list-style-type: none"> <li>• Introduction to the Health Promotion Policy</li> <li>• Applications and challenges for its implementation</li> </ul>		1.5
<b>End of module assessment = Combine End of Term Assignment</b>			
<b>Number of hours: Lectures = 42.0 ; Role play =1.5</b>			
<b>Credit points = 2.8 + 0.05 = 2.9</b>			

**Reading Material:**

- 1 The Ottawa Charter for Health Promotion:  
<http://www.who.int/healthpromotion/conferences/previous/ottawa/en/>
- 2 Draft Sri Lanka National Health Promotion Policy  
<http://whosrilanka.healthrepository.org/bitstream/123456789/290/1/Sri%20Lanka%20National%20Health%20Promotion%20Policy-%20final%20draft-.pdf>
- 3 Client-centered therapy  
[http://en.wikipedia.org/wiki/Person-centered\\_therapy](http://en.wikipedia.org/wiki/Person-centered_therapy)
- 4 Health Education Bureau: Services  
[http://www.healthedu.gov.lk/web/index.php?option=com\\_content&view=article&id=43&Itemid=34&lang=en](http://www.healthedu.gov.lk/web/index.php?option=com_content&view=article&id=43&Itemid=34&lang=en)
- 5 Communication Skills: Fran Beisler, HermineScheeres, David Pinner, available at the NIHS Library.

**Mental Health**

**MSc/CD-13**

**Competencies:**

1. Promotion of mental wellbeing/health in the community and among specific settings:home, schools, work place
2. Prevention of development of mental illness in the community and among specific settings
3. Screening and referral of persons with mental illness for appropriate care and rehabilitation

**Objectives:**

To be able to:

1. describe the concepts of mental wellbeing and the full spectrum of mental health
2. describe the principles of promotion of mental health and prevention of mental illnesses
3. promotion of mental wellbeing and prevention of mental illness at home, schools, work place
4. discuss the stressors in life and
5. develop skills of counseling
6. describe common mental illnesses and their epidemiology -global/regional/Sri Lankan situation
7. discuss the role of the MOH, PHM and PHI in promotion of mental health and prevention of mental illnesses
8. describe the organization of mental health services -preventive, curative & rehabilitation services in the country
9. describe epidemiology, methods of prevention of alcohol related harm & substance abuse, violence, suicide

Domain	Lecture Topic & Content	Mode of Delivery	Time – hrs
Knowledge	<b>1.An overview of mental wellbeing</b> <ul style="list-style-type: none"> <li>• Concept of complete health</li> <li>• Concept of mental wellbeing</li> <li>• Spectrum of mental health</li> </ul>	Small Group Discussion	1.5
Knowledge & Skills	<b>2.Mental health promotion and prevention of mental illnesses</b> <ul style="list-style-type: none"> <li>• Concept of promotion of mental wellbeing: role of recreation, exercise, food</li> <li>• Happiness and contentment</li> <li>• indicators of happiness-eg-gross national happiness and gross domestic happiness</li> </ul>	Role Play & Small Group Discussion	1.5
Skills	<b>3.Promotion of mental health in the community</b> <ul style="list-style-type: none"> <li>• Epidemiology of mental health</li> <li>• Concept of promotion of mental health status of a community</li> <li>• Strategies for mental health promotion in the community e.g. meditation, happiness training, peer group training</li> </ul>	Role Play	1.5
Knowledge	<b>4.Stressors in life</b> <ul style="list-style-type: none"> <li>• Stressors in day to day life e.g. Relationship issues, anger, dissatisfaction and unhappiness</li> </ul>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Dealing with stressors</li> <li>• Skills of counseling</li> </ul>		
	<p><b>5.Mental health promotion in the family</b></p> <ul style="list-style-type: none"> <li>• Strategies for mental health promotion in the family e.g. Family education on marital harmony, parenting, management of family economy</li> </ul>	Lecture	1.5
	<p><b>6.Mental health promotion among children</b></p> <ul style="list-style-type: none"> <li>• Role of schools in promoting mental health among children e.g. friendly and non-harassing and non- violent environment</li> <li>• How to link with the education system to promote mental health</li> <li>• Preventing mental illnesses among children</li> <li>• Services available for children with mental illnesses</li> </ul>	Lecture	1.5
	<p><b>7.Mental health promotion at the work place</b></p> <ul style="list-style-type: none"> <li>• Concept of mental health promotion at work place</li> <li>• Strategies for mental health promotion at work place e.g effect of physical environment</li> <li>• Worker friendly, positive, non-harassing management, happiness training</li> <li>• Preventing mental illness related to work place</li> </ul>	Lecture	1.5
	<p><b>8.Early detection of deterioration of mental health</b></p> <ul style="list-style-type: none"> <li>• Early detection of mental ill health at population level - increasing trends in the crime rate, road traffic accidents,</li> <li>• Human psychological index</li> <li>• Early detection of mental ill health among individuals eg: unhappiness</li> <li>• Methods of detection/screening -at schools, primary health care settings, work place</li> </ul>	Lecture	1.5
	<p><b>9.Role of the public health team in mental health promotion &amp; prevention of mental illnesses</b></p> <ul style="list-style-type: none"> <li>• Role of different categories of public health staff in promotion of mental wellbeing e.g MOH, PHM, PHI</li> <li>• Role of different categories of public health staff in prevention of mental ill health</li> </ul>	Lecture	1.5
Knowledge	<p><b>10.National mental health policy &amp; organization of mental health services in Sri Lanka</b></p> <ul style="list-style-type: none"> <li>• Objectives and strategies of the National Mental Health Policy</li> <li>• Operationalization of the national policy</li> <li>• Role of different stakeholders-health (curative and public health), non health</li> </ul>	Lecture	1.5
	<p><b>11.Promotion of mental wellbeing among those with mental illness</b></p> <ul style="list-style-type: none"> <li>• Overview of minor and major mental illness</li> <li>• Prevalence and distribution-global, regional and Sri Lankan situation</li> </ul>	Lecture	1.5

<ul style="list-style-type: none"> <li>• Care for persons with mental illnesses including rehabilitation</li> <li>• Role of public health staff in providing care for persons with mental illnesses including rehabilitation in the community</li> </ul>		
<p><b>12. Community support centres and Rehabilitation centres</b></p> <ul style="list-style-type: none"> <li>• Community support centers</li> <li>• Rehabilitation centers</li> </ul>	Lecture	1.5
<p><b>13. Prevention of alcohol related harm &amp; substance abuse</b></p> <ul style="list-style-type: none"> <li>• Epidemiology of alcohol related harm &amp; substance abuse - global/regional/Sri Lankan situation</li> <li>• Methods of prevention</li> <li>• Services available for care and rehabilitation of persons with alcohol related harm &amp; substance abuse</li> </ul>	Lecture	1.5
<p><b>14. Prevention of violence</b></p> <ul style="list-style-type: none"> <li>• Types of violence, and epidemiology-global/regional/Sri Lankan situation</li> <li>• Risk factors among different groups eg: School children, youth</li> <li>• Methods of prevention of violence</li> <li>• Services available for care and rehabilitation</li> </ul>	Lecture	1.5
<p><b>15. Prevention of suicide</b></p> <ul style="list-style-type: none"> <li>• Epidemiology of suicide &amp; self-harm- global/regional/Sri Lankan situation</li> <li>• Risk factors</li> <li>• Methods of prevention</li> </ul>	Lecture	1.5

**Assessment : Combined end of term assignment**

**Number of hours: Lectures = 18.0 ; Student presentations = 4.5**

**Credit points = 1.2 + 0.2 = 1.4**

**Reading Material:**

1. Mental health policy of Sri Lanka, 2005-2015, Ministry of Health,
2. Mental Health Care in Sri Lanka, New Directions-Jayan Mendis & Shehan Williams, Published by the Sri Lanka College of Psychiatry, 2011
3. National report on violence and health in Sri Lanka, Ministry of Health and WHO joint publication, 2008
4. Strengthening primary care to address mental and neurological disorders, WHO/SEARO, 2012
5. Perfect Mental Health-An Exposition of Contemplative Neuro-Scientific Reality of Mind and Body Consciousness. Dr. Wasantha Gunathunga. Published 2010 by Department of Community Medicine, Faculty of Medicine, Colombo
6. Oxford textbook of Psychiatry-Chapter on Community Psychiatry
7. Text book of Community Psychiatry-Graham Thornicroft, George Szukler, 2001, Oxford University Press

**Personal & Professional Development  
MSc/CD-14**

**Competencies:**

1. Being equipped with soft skills necessary to effectively function as a medical professional

**Objectives:**

To be able to

1. Describe the need for professional development
2. Describe the soft skills needed for a professional

<b>Domain</b>	<b>Lecture Topic &amp; Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.Introduction to PPD module</b> • Need for personal and professional development	Lecture	1.5
Skills	<b>2.Negotiating skills</b> • Being able to negotiate for a win-win outcome	Role play & peer evaluation	1.5
Knowledge	<b>3.Soft skills of a professional I</b> • Patience • Concentration • Working with less personal biases and prejudices • Training the mind	Lecture	1.5
Skills	<b>4.Soft skills of a professional II</b>	Small group discussion	1.5
	<b>5.Debating and advocacy skills</b> A debate on a current topic		1.5
Knowledge	<b>6.Professionalism</b> • Professional manner in dealing with people • Being a team member, • Leader with modern professional etiquette	Lecture	1.5
	<b>7.Change catalyst</b> • Making changes and maintaining change	Lecture	1.5
	<b>8.Giving an effective oral presentation</b> • Communicate effectively to an audience using verbal, non-verbal languages with effective audiovisual use	Lecture	1.5
	<b>9.Being a self directed learner</b> • Continuous self improvement with reflective practice	Lecture	1.5
	<b>10.Positive thinking</b> Seeing the positive aspects and opportunities in relation to professional and personal matters	Lecture	1.5

	<p><b>11. Time management</b></p> <ul style="list-style-type: none"> <li>• Effective use of time by planning, and managing and improving unit time performance</li> </ul>	Lecture	1.5
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**Assessment : Combined end of term assignment**

**Number of hours: Lectures = 12.0 ; Student presentations = 4.5**

**Credit points = 0.8 + 0.2 = 1.0**

**Reading material:**

1. Handbook of Workplace Spirituality and Organizational Performance [Hardcover]. Robert Giacalone, Carole L. Jurkiewicz (Editors).
2. Perfect Mental Health. Wasantha Gunathunga.
3. [http://www. Mindtools.com](http://www.Mindtools.com)
4. [www.perfectmentalhealth.org](http://www.perfectmentalhealth.org)
5. <http://www.skillsyouneed.com/ips/negotiation.html>
6. <https://www.ldsjobs.org/ers/ct/articles/effective-negotiation-skills?lang=eng>
7. <http://www.mindtools.com/CommSkll/NegotiationSkills.htm>

**Medical Sociology & Anthropology**

**MSc/CM-15**

**Competencies:**

1. Being aware of factors that affect the use of health care facilities by individuals
2. Appraise current national and local policies designed to reduce inequalities in health

**Objectives:**

To be able to

1. describe concepts of health, illness and sickness
2. discuss health and healing as a part of culture
3. appraise pluralistic nature of healthcare system
4. describe the impact of social and economic factors on health and ill-health
5. analyze market forces in reshaping health and illness
6. describe the relevance of ethnography in public health

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.Basic concepts in social aspects of health</b> • Concepts of health, illness and sickness • Health and healing as a part of culture	Lecture	1.5
	<b>2.Health seeking behaviour</b> • Pluralistic nature of healthcare system	Lecture	3.0
	<b>3. Medicalization of health</b> • Impact of social & economic factors on health and ill health • Market forces in reshaping health and illness	Lecture	3.0
	<b>4.History and utility of ethnography in public health</b> • Relevance of ethnography in public health	Lecture	3.0
<b>Assessment : Combined end of term assignment</b>			
<b>Number of hours: Lectures = 10.5</b>			
<b>Credit points = 0.7</b>			

**Reading Material:**

1. Helman Cecil. 2007. Culture Health and Illness 5<sup>th</sup> Edition, Hodder Arnold, London
2. Kleinman, A., 1980, Patients and Healers in the context of Culture: An Exploration of the Borderland between Anthropology, Medicine and Psychiatry, University of California Press, Berkeley.
3. Ivan illich. The Medicalization of life in Journal of Medical Ethics, Volume 1, Issue 2 1975;1:73-77
4. ChandaniLiyanage. 2002. Treatment seeking behaviour in Health sector in Sri Lanka: Current status and challenges published by Health development and Research Programme, University of Colombo.
5. Nettleton, Sarah. 1995. The Sociology of Health and illness. United Kingdom, Polity Press.
6. Weerasinghe M C, Fernando, D N., Paradox in Treatment Seeking: An Experience From Rural Sri Lanka, *Qualitative Health Research*, 2011, 21(3), 365-372. DOI:10.1177/1049732310385009

**Dental Public Health**

**MSc/CD-16**

**Competencies:**

1. Use WHO Basic Methods in a standardised manner in field surveys
2. Screen populations to detect oral potentially malignant oral disorders and organise screening programmes and train health workers to carry out such procedures.
3. Provide leadership, expertise and advice in the prevention of oral cancer in Sri Lanka
4. Carry out epidemiological surveys of oral disease, critically interpret and adapt existing epidemiological information when planning dental services, participate in future national oral health surveys.
5. Undertake both clinical and community prevention of common oral diseases
6. Inform and educate relevant authorities about the importance of health considerations in economic policy formulation
7. Contribute to human resource development in oral health and argue the case for the wider utilization of dental auxiliaries in Sri Lanka
8. critically assess local oral health care provision and propose innovations based on strategies that have been effective in other parts of the world
9. Plan, implement and evaluate a oral health care programme

**Objectives:**

To be able to

1. Describe the epidemiology of common oral diseases and conditions
2. Describe the different strategies and techniques for community and individual prevention of oral diseases
3. Describe oral health survey methods and indices used in oral epidemiology
4. Describe the oral health care work force - their duties, limitations and potential for their expanded use
5. Have an understanding of planning and organization of different types oral health care delivery systems globally, their structure, methods of financing, remuneration and limitations

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.Introduction to dental public health</b> Principles of dental public health Role of social determinants of health Contemporary challenges to oral health priorities	Lecture	1.5
	<b>2.Oral health survey methods and indices in oral epidemiology</b> Clinical indices used to estimate periodontal disease Criteria and application of the WHO Basic Methods for surveys of dental caries Criteria and application of the WHO CPI, indices of dental fluorosis and malocclusion	Lecture	1.5

Knowledge	<p><b>3.Diet and dental caries</b></p> <p>Evidence for role of diet and nutrition in oral health</p> <p>Dietary advice to be given to the public for the prevention of oral diseases</p>		
	<p><b>4.Oral cancer epidemiology and prevention</b></p> <p>Aetiology and global epidemiology of orofacial neoplasms with special reference to risk factors</p> <p>Impact of screening on oral cancer mortality and prevention of oral cancer.</p> <p>Techniques and strategies for prevention of oral cancer</p>	Lecture	1.5
	<p><b>5.Oral disease patterns in Sri Lanka ( National Oral Health Survey)</b></p> <p>Oral disease patterns in Sri Lanka</p> <p>Research methods used for national surveys of oral health in Sri Lanka</p>	Lecture	1.5
	<p><b>6.Epidemiology of dental caries</b></p> <p>Global burden of dental caries</p> <p>Risk factors including its social determinants</p> <p>Risks to health posed by dental caries</p> <p>Impact of changing patterns of dental caries worldwide on the tasks of oral health workers.</p>	Lecture	1.5
	<p><b>7.Epidemiology and prevention of periodontal disease</b></p> <p>Risk factors for chronic periodontitis</p> <p>Global distribution of periodontal disease</p> <p>Advances in the progression of periodontal disease</p> <p>Strategies and approaches in the prevention of periodontal disease</p>	Lecture	1.5
	<p><b>8.Preventive and least invasive management of dental caries including sealant use</b></p> <p>Justification for minimum intervention approaches in the control of oral disease</p> <p>Minimum intervention treatment regimens in preventive and restorative dentistry including</p> <p>Fissure sealants</p>	Lecture	1.5
	<p><b>9.Dental care delivery systems worldwide</b></p> <p>Range and diversity of oral health care systems globally</p>	Lecture	1.5
Knowledge	<p><b>10.Oral health inequalities and human poverty</b></p> <p>Evidence for social inequalities in oral health</p> <p>Explanations for social inequalities in oral health</p> <p>Oral health and poverty</p>	Lecture	1.5
	<p><b>11.Public health approaches for prevention</b></p> <p>Upstream perspective on disease prevention</p>	Lecture	1.5

	<p>Whole population and risk approaches to prevention</p> <p>Common risk factor approach to prevention of oral disease</p> <p>Screening</p>		
	<p><b>12.Organization of dental services in Sri Lanka-Visit to the Regional dental surgeon</b></p> <p>Structural and functional aspects of oral health services at national and regional level</p> <p>Limitations of oral health care services in the provision of oral health care</p>	Lecture	3.0
	<p><b>13.Fluorides and oral health</b></p> <p>Different modalities of use of fluorides in both clinic and community in the prevention of dental caries</p> <p>Remineralization action of fluoride</p> <p>Nature and mechanisms of dental fluorosis</p> <p>WHO conclusions and recommendations pertaining to fluoride use.</p>	Lecture	3.0
	<p><b>14.Overview of private dental care provision</b></p> <p>Describe structure and features of private dental care</p>	Lecture	1.5
	<p><b>15.Monitoring and evaluation of dental services</b></p> <p>Describe criteria by which dental services could be evaluated</p>	Lecture	1.5
	<p><b>16.Dental public health services in Sri Lanka</b></p> <p>Describe structure, features and functions of dental public health services in Sri Lanka</p>	Lecture	1.5
	<p><b>15.Population strategies for prevention of oral diseases</b></p> <p>Describe the stages in planning a preventive strategy</p> <p>Design a strategy to tackle a major oral health problem</p>	Lecture	1.5
	<p><b>16.Integration of oral health care within MCH and school medical services</b></p> <p>Describe the role of MCH and school medical services in oral health promotion</p>	Lecture	1.5
Knowledge Knowledge	<p><b>17.Human resources for oral health and planning of dental services</b></p> <p>Outline the basic steps in the planning cycle</p> <p>Describe the different methods of dental work force planning</p> <p>Describe the range of information needed in planning dental services</p>	Lecture	1.5
	<p><b>18.Economics of dental care</b></p> <p>Define health economics</p> <p>Understand why health economics are a part of modern health services</p> <p>Describe the main types of economic analyses</p>	Lecture	1.5

<b>End of module assessment = Combine End of Term Assignment</b>
<b>Number of hours: Lectures = 33.0 ; Field Visits =25.0</b>
<b>Credit points = 2.2 + 0.6 = 2.8</b>

**Readingmaterial:** Trainees will be provided with a dossier containing latest journal articles on the above topics.

**Research Methodology**  
**MSc/CD-17**

**Competencies:**

- plan and conduct a research project
- disseminate the findings in a scientific report

**Objectives:**

To be able to

develop knowledge and skills of the trainee to plan and conduct a research project using scientific methods, analyze data using basic statistical methods, derive appropriate conclusions and recommendations and to present the findings in a scientific report based on the time frame available

<b>Domain</b>	<b>Content</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Knowledge	<b>1.What is research?</b> <ul style="list-style-type: none"> <li>• Defining a research</li> <li>• Importance of research evidence</li> <li>• Scope of the research to be conducted</li> <li>• Research priorities of Sri Lanka</li> <li>• Published lists of research priorities</li> <li>• Advantages in researching prioritized themes</li> </ul>	Lecture	1.5
	<b>2. Identifying a research topic</b> <ul style="list-style-type: none"> <li>• How to identify a research topic</li> <li>• Factors to consider when identifying a research topic</li> <li>• Discussion on research topics identified by trainees</li> </ul>	Lecture	1.5
	<b>3. Development of a conceptual framework for research problems</b> <ul style="list-style-type: none"> <li>• Advantages of a conceptual framework</li> <li>• Developing a conceptual framework for the research</li> <li>• Discussion on developing conceptual frameworks for research identified by the trainees</li> </ul>	Lecture	1.5
	<b>4. Literature review</b>	Lecture	1.5

	<ul style="list-style-type: none"> <li>• Sources of literature</li> <li>• Critical reviewing and documenting reviewed literature</li> </ul>		
Knowledge	<b>5. Formulating objectives/hypothesis</b> <ul style="list-style-type: none"> <li>• Importance of objectives</li> <li>• Rules of formulating objectives</li> <li>• General vs specific objectives</li> <li>• Discussion on formulating objectives for research identified by the trainees</li> </ul>	Lecture	1.5
	<b>6. Managing references</b> <ul style="list-style-type: none"> <li>• Managing references using different techniques</li> <li>• Demonstration of a reference managing software</li> </ul>	Lecture	1.5
	<b>7. Operationalizing the variables</b> <ul style="list-style-type: none"> <li>• Need for operationalizing variables</li> <li>• Issues related to operationalizing variables</li> <li>• Discussion on operationalizing variables for researches identified by the trainees</li> </ul>	Lecture	1.5
	<b>8. Identifying dependent and independent variables</b> <ul style="list-style-type: none"> <li>• Importance of identifying dependent and independent variables</li> <li>• Identifying dependent and independent variables for relevant to the analysis and interpreting the results</li> <li>• Discussion on operationalizing variables for researches identified by the trainees</li> </ul>	Lecture	1.5
	<b>9. Deciding on the study design</b> <ul style="list-style-type: none"> <li>• Discussion on study designs for researches identified by the trainees</li> </ul>	Lecture	1.5
	<b>10. Selecting study population, sample size and sampling techniques</b> <ul style="list-style-type: none"> <li>• Concepts of target population, reference population, study population, sample population</li> <li>• Discussion on study populations, sample size and sampling techniques applicable for researches identified by the trainees</li> </ul>	Lecture	1.5
	<ul style="list-style-type: none"> <li>• <b>11. Data collection tools for quantitative research</b> Types of study instruments</li> <li>• Development and validation of study instruments Internationally available instruments and scales</li> <li>• Discussion on study instruments for researches identified by the trainees</li> </ul>	Lecture	1.5
	<b>12. Data collection tools for qualitative research</b> <ul style="list-style-type: none"> <li>• Use of qualitative research</li> <li>• Types of qualitative study instruments</li> <li>• Development of qualitative study instruments</li> <li>• Collection and analysis of qualitative data</li> </ul>	Lecture	1.5

Knowledge	<b>13. Identifying and addressing ethical issues in research</b> <ul style="list-style-type: none"> <li>Identifying ethical issues and strategies to minimize ethical issues in research</li> <li>Applying for ethics clearance</li> <li>Discussion on ethical issues in researches identified by the trainees</li> </ul>	Lecture	1.5
	<b>14. Planning for data analysis</b> <ul style="list-style-type: none"> <li>Importance of planning for data analysis early</li> <li>Identifying data analysis plans according to objectives</li> <li>Discussion on planning for data analysis in researches identified by the trainees</li> </ul>	Lecture	1.5
	<b>15. Formulation of a research proposal</b> <ul style="list-style-type: none"> <li>Components of a research proposal</li> <li>Specification of the proposal for the course</li> </ul>	Lecture	1.5
Knowledge & Skills	<b>16. Discussion on identifying a research topic</b> <ul style="list-style-type: none"> <li>Presenting the identified research topics</li> <li>Critically commenting on the research topics by others</li> <li>Clarifying issues related to identified research topics</li> </ul>	Small Group Discussion	3.0
	<b>17. Discussion on formulating objectives/hypothesis</b> <ul style="list-style-type: none"> <li>Presenting the research objectives</li> <li>Critically commenting on the research objectives by others</li> <li>Clarifying issues related to identified research objectives</li> </ul>	Small Group Discussion	3.0
	<b>18. Discussion on study design, study population, sample size and sampling techniques, data collection tools</b> <ul style="list-style-type: none"> <li>Presenting the planned study design, study population, sample size and sampling techniques, data collection tools for own research</li> <li>Critically commenting on the study design, study population, sample size and sampling techniques, data collection tools of research by others</li> <li>Clarifying issues related to study design, study population, sample size and sampling techniques, data collection tools for own research</li> </ul>	Small Group Discussion	3.0
	<b>19. Presenting research plan</b> <ul style="list-style-type: none"> <li>Title, objectives, study designs, study population, sample size and sampling technique for comments of the others</li> <li>Outline of the final proposal for comments of others</li> </ul>	Seminar	12.0
Knowledge & Skills	<b>20. Hands on practice on Data management and use of statistical software for data entry and analyses</b> <ul style="list-style-type: none"> <li>Data management tips</li> <li>Creating a data entry format</li> <li>Practice entry of data</li> </ul>	Practical Session	6.0

	<ul style="list-style-type: none"> <li>• Practice of simple data analysis techniques</li> </ul>		
Knowledge	<b>21. Overview of Dissertation</b> <ul style="list-style-type: none"> <li>• Specific aspects</li> <li>• Submission procedure</li> <li>• Regulations regarding dissertation</li> </ul>	Lecture	1.5
	<b>22. Principles of scientific writing</b> <ul style="list-style-type: none"> <li>• General principles of scientific writing</li> <li>• Principles of dissertation writing</li> <li>• Common mistakes made by trainees</li> </ul>	Lecture	1.5
	<b>23. Writing Chapter 1 (Introduction)</b> <ul style="list-style-type: none"> <li>• Content</li> <li>• Tips on formulating the Introduction chapter</li> <li>• Critically evaluating sample chapters on Introduction</li> </ul>	Lecture	1.5
	<b>24. Writing Chapter 2 (Literature Review)</b> <ul style="list-style-type: none"> <li>• Content</li> <li>• Critically evaluating sample chapters on Literature Review</li> <li>• Common mistakes made by trainees</li> </ul>	Lecture	1.5
	<b>25. Writing Chapter 3 (Methods)</b> <ul style="list-style-type: none"> <li>• Content of the chapter under each subheading</li> <li>• Critically evaluating sample chapters on Methods</li> <li>• Common mistakes made by trainees</li> </ul>	Lecture	1.5
	<b>26. Presenting Chapter 4 (Results)</b> <ul style="list-style-type: none"> <li>• Scientific presentation of results</li> <li>• Critically evaluating sample chapters on Results</li> <li>• Common mistakes made by trainees</li> </ul>	Lecture	1.5
	<b>27. Writing Chapter 5 (Discussion)</b> <ul style="list-style-type: none"> <li>• Principles of writing a discussion</li> <li>• Critically evaluating sample chapters on Discussion</li> <li>• Common mistakes made by trainees</li> </ul>	Lecture	1.5
	<b>28. Writing Chapter 6 (Conclusions &amp; Recommendations)</b> <ul style="list-style-type: none"> <li>• Principles of writing Conclusions &amp; Recommendations</li> <li>• Critically evaluating sample chapters on Conclusions &amp; Recommendations</li> <li>• Common mistakes made by trainees</li> </ul>	Lecture	1.5
Knowledge	<b>29. Writing the Abstract</b> <ul style="list-style-type: none"> <li>• Principles of writing an abstract</li> <li>• Critically evaluating samples of Abstracts</li> <li>• <b>Common mistakes made by trainees</b></li> </ul>	Lecture	1.5
<b>Outcome: Development of 1)Project Proposal ; 2)Dissertation</b>			

**Number of hours: Lectures = 36.0**

**Other modes of delivery= SGD + Seminars + Practical = 9+12+ 6 = 27**

**Credit points = 2.4 +0.9 = 3.3**

**Reading Material:**

1. C Sivagnanasundaram, 1999. Learning Research- A guide to medical students, Junior doctors and related professionals.
2. JH Abramson, ZH Abramson, 1999. Survey methods in Community Medicine.
3. A research instrument: the questionnaire, PGIM, University of Colombo, 2003
4. M.A. Fernando. 2002. Guidelines For The Preparation Of A Thesis/Dissertation. PGIM, University of Colombo.
5. M.A. Fernando. 2003.A research instrument: The Questionnaire PGIM, University of Colombo.
6. M.A. Fernando. 2005. Style in Writing. PGIM, University of Colombo.

NB: Prof. MA Fernando's books are available at the PGIM

**M Sc/CD-18**

**Field Training in clinical and practical Skills**

**Competencies:**

1. Effective management of emergencies in the preventive health care settings
2. Competency in performing clinical procedures relevant to preventive health care settings
3. Provide quality field health services through proper supervision and guidance of all categories of healthcare providers

**Objectives:**

To be able to

1. critically review the following aspects in the delivery of field health services:
  - Immunization program
  - Poly clinic
  - Status of a PHM office
  - Status of a PHI office
  - Disease surveillance
  - Status of a MOH office
  - School health program
  - Health education session
  - Health education program
  - Progress review meeting
  - Food sanitation program
  - A selected health promotion project
  - Special health programs at Divisional Level
  - Inter-sectoral cooperation for health development
2. develop following practical competencies which are pertinent to preventive oral health care delivery:
  - Screening for oral cancer and oral potentially malignant disorder
  - Application of fluoride gels
  - Application of fluoride varnishes
  - Application of fissure sealants
  - Screening pregnant mothers for oral disease
  - Dietary counseling for high risk groups

<b>Domain</b>	<b>Content*</b>	<b>Mode of Delivery</b>	<b>Time – hrs</b>
Practical skills	<b>Delivery of field health services</b>	Student presentations	120.0
		Practical	
<b>Assessment : 1. submission of duly completed “Log Book”</b>			
<b>Number of hours: Clinical training = 120</b>			
<b>Credit points = 2.6</b>			

\*Content details: Refer ANNEX ....

**Reading Material:**

1. Thirteenth Amendment to the Constitution, the Constitution of the Democratic Socialist Republic of Sri Lanka.<http://www.priu.gov.lk/Cons/1978Constitution/AMENDMENTS.html>
2. Duties and Responsibilities of Public Health Inspectors, Public Health Inspector's Manual.  
<http://www.health.gov.lk/Circularshealth.htm>
3. Relevant circulars given on Family Health Bureau Website.<http://www.familyhealth.gov.lk/web/>
4. Duties and responsibilities of different categories of public health professionals given in different circulars of Ministry of Health, Sri Lanka.

**Annex II**  
**Consent Form**

**Supervision of MSc Community Dentistry Research Project**

1. Name of Supervisor:
2. Official Address:
3. Email:
4. Phone Numbers: Official: ..... Mobile: .....
5. Training Centre:
6. Name of Trainee:
7. Title of Project:

I consent to supervise the above mentioned trainees' research project and dissertation

Signature of Supervisor : .....

Date : .....

## **Annex III**

### **Roles & Responsibilities of Supervisors**

**All supervisors are expected to read this document and be aware of their roles and responsibilities.**

#### **1. Introduction**

The general role of supervisors is to guide and assist trainees through academic research projects. A supervisor plays a key role in the trainee's professional development, inculcating the scientific approach, and ethics of research. These can be achieved through a iterative cycle of development of trainee's skills of reflection, conceptualization, planning and practical experience. Practically, a supervisor is responsible for providing help, support and mentoring a postgraduate trainee in order to enable the trainee to complete the research and produce a dissertation/ thesis of good quality. . Supervisor behaviours need to reflect varying levels of direction and facilitation.

A supervisor will normally be appointed from among those with requisite qualifications, knowledge, time, commitment and access to resources to undertake the supervision. The supervisor should possess recognized subject expertise, skills and experience to monitor, support and direct research. They are expected to assess formally their subject-specific and personal and professional skills on a regular basis and ensure that these needs are met.

#### **2. Major Roles**

The Board of Study in Community Medicine has identified the major roles of the supervisor as follows:

1. Provide academic guidance.
2. Establish a good rapport with the trainee and a conducive environment for designing and conducting research?
3. Allocation of time for the meetings between the supervisor and trainee.
4. Confirm that the administrative requirements are met with.
5. Provide guidance to carry out activities in accordance with the ethics of the discipline of Community Medicine and the research area

##### **2.1 Responsibilities regarding “Provision of academic guidance”**

- a. Provide guidance and encouragement and bear overall responsibility for the direction of the research on behalf of the BOS.
- b. Verify that the topic is feasible, given the candidate's abilities and the available resources in terms of time, funds and the need for collection of primary data of good quality.
- c. Assist in the development of the trainee's dissertation/ thesis beginning from the early stage of designing, until the dissertation/ thesis is written and submitted in accordance with the stipulated requirements.
- d. Facilitate the process in accessing current literature including seminal works in the area and local research, and stay abreast of the cutting-edge ideas in the field.
- e. Closely monitor the research work, results obtained and allocate sufficient time and effort in discussion of the interpretation of the results.

- f. Read the trainee's dissertation/thesis as and when necessary in draft form, give constructive feedback in time, suggest revisions, and ensure that the dissertation is of the expected standard.
- g. Encourage communication of research at conferences.
- h. Help trainees to develop professional skills in writing reports, papers, and grant proposals.
- i. Encourage the trainee to participate actively in seminars, colloquia, conferences and other relevant meetings and conferences at the local (training unit) or at national level etc. in areas related to the research.
- j. Establish professional networks and make use of professional contacts for the benefit of trainees.

## **2.2 Responsibilities regarding “Development of good rapport and a conducive environment?”**

- a. Develop good working relationships with trainees that stimulate their creativity.
- b. Provide regular feedback on the progress, including constructive criticism if the progress does not meet expectations.
- c. In case trainees face personal problems, supervisors should try as far as possible to assist them to avoid eventual drop-out.

## **2.3 Responsibilities regarding “Time allocation”**

- a. Time allocation will depend on the stage of the research reached.
- b. There will probably be a need for more intensive supervision in the initial planning stage and at the writing-up stage.
- c. The nature of the supervision can be face-to-face meetings, contact via email/fax/telephone, and reading of submitted material.
- d. A minimum time allocation of 120 hours of supervision per year for a full-time research trainee (MD).

## **2.4 Responsibilities regarding “Administrative requirements”**

- a. Be familiar with the guidelines on the format of the dissertation/thesis. These have been given to the trainee and a copy is attached.
- b. Forward all correspondence regarding the trainee to the Director PGIM with observations of the supervisor.
- c. Inform of issues that may arise related to the trainee, or research etc. promptly to the Board of Study.

## **Annex IV**

### **Guidelines for Research Proposal Writing**

The objective of the research component is to develop knowledge and skills of the trainee to plan and conduct a research project using scientific methods, analyse data using basic statistical methods, derive appropriate conclusions and recommendations and to present the findings in a scientific report within the time frame available.

The following guidelines are issued with regard to formulating the research proposal:

#### **A. General**

The research project should be based on “quantitative research” and the data should be “primary data”. The trainee should personally be involved with data collection.

#### **B. Proposal writing**

The proposal should be written in the future tense.

##### **1. Title –**

It should be short and accurate and reflect on the main theme of the research carried out.

##### **2. Introduction:** Should consists of three main components:

- a. Background information:** may include subheadings under this as per relevance to the description of the research problems. All relevant literature to be included under this section.
- b. Justification**
- c. Objectives: General objective and Specific objectives**

##### **3. Methods –** Should include details regarding the following in the given sequence:

- a. Study type/design
- b. Study setting
- c. Study period
- d. Study population/s with Inclusion / Exclusion criteria according to relevance
- e. Calculation of sample size -
- f. Sampling technique
- g. Intervention – describe briefly the proposed intervention (applicable only to an intervention study) and clear statement of outcomes
- h. Study instruments-
  - i. Questionnaire – type of the questionnaire and broad components to be briefly described
  - ii. Other data collection tools - broad components to be briefly described
- i. Study implementation/ Plan for data collection – a brief account including pre testing
- j. Data analysis – A brief account of data processing, software and statistical methods (descriptive and inferential statistics) applicable to each specific objective.
- k. Administrative requirements
- l. Ethical issues and clearance
- m. Definitions of variables specific to the study (excluding socio demographic variables) defined in operational terms.

4. **References** Should use the Harvard System, American Psychological Association Style (APA).

5. **Budget** – To be included as an ANNEX (a sample budget is included below).

Items	Estimated Cost
Stationery	
Travel	
Printing	
Consumables	
Miscellaneous	
Total	

6. **Timetable** - Gantt chart (Figure 1). To be included as an ANNEX.

Activity	Activity					
	March	April	May	June	July	August
Literature survey						
Proposal writing						
Ethics clearance						
Planning data collection						
Data collection						
Data entry						
Data analysis						
Report writing						

**Figure 1 – A sample Gantt chart**

### C. Formatting instructions

The proposal should be word-processed and printed on *both sides* of A4-size paper.

**Margins** - 1 inch / 2.5 cm on all four sides

**Font Style** – *Calibri*

**Font Size** – 11

**Line Spacing** -Single

**Proposed Supervisor** – Name to be included

**Number of Pages** – Not exceeding four (4) pages excluding Annexes

**Number of Copies** – Three (3)

### D. Date of Submission

The date of submission as specified by the Board of Study, which is generally during the last week in the month of April.

**AnnexV**

**“Timeline: Research Project”**

This is the format that has been approved by the Board of Study in Community Medicine to monitor the progress of the trainees with regard to the research project.

It is the responsibility of the trainee to complete each task by the stipulated date and submit the form for supervisor’s signature. Any deviations/ delays should be communicated to the supervisor to be recorded in the form when obtaining the signature. The completed form should be submitted to the PGIM along with the Dissertation when it is submitted for the MSc Examination (as a separate document not attached to the dissertation).

**Name of Trainee:** .....

**Dissertation Title**

**Original :**

.....  
 .....  
 .....

**Revised (If relevant):**

.....  
 .....

**Name of Supervisor:**

.....

<b>Task</b>	<b>Scheduled Time to Complete Task &amp; Submit for Approval</b>	<b>Date of Submission for Approval by Supervisor</b>	<b>Remarks of Supervisor* (Reasons for any delays)</b>	<b>Signature of Supervisor</b>
Appointing a supervisor & approval of tentative title	Last week of March			
Submission of proposal to BoS for approval	Last week of April			
Finalizing data collection tools	Last week of May			
Submission for Ethical Clearance	Last week of May			
Completion of first draft of Chapter 1 (Introduction)	Last week of June			
Completion of first draft of Chapter 2 (Literature Review)	Last week of July			

Completion of first draft of Chapter 3 (Methods)	Last week of August			
Completion of data collection	Last week of September			
Completion of data entry (to be performed by the trainee along with collection of data)	Last week of September			
Data analysis and Interpretation	6 weeks prior to report submission date			
Completion of first draft of Chapter 4 (Results)	4 weeks prior to report submission date			
Completion of first draft of Chapters 5 & 6 (Discussion & Conclusions and Recommendations)	2 weeks prior to report submission date			
Completion of List of References	1 week prior to report submission date			
Completion of Abstract	1 week prior to report submission date			

**Specific remarks of the trainee\***

.....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....

**Signature of the Trainee.....**

**Date:** ...../...../.....

**Specific remarks of the supervisor\***

.....  
 .....  
 .....  
 .....  
 .....

.....  
.....  
.....  
.....

**Signature of the Supervisor:**.....

**Date:** ...../...../.....

\*Please use additional paper as per requirement

**Annex VI**

**Research Proposal Assessment Form**

**Name:** Dr.....

**Title / Running Title of the Research Project:**

.....  
.....  
.....  
.....

**Details of Assessment** (please strike off the inappropriate response):

**1. Title:**

- a. Does the title make the general objective clear? Yes/ No
- b. Does it refer to the study population? Yes/ No
- c. Does it reflect the study setting? Yes/ No
- d. Is it free of phrases such as ‘a study on’ and abbreviations and acronyms? Yes/ No
- e. Is the title too long? Yes/ No

**Comments:**

.....  
.....

**2. Introduction:**

Background Information:

- a. Does **it provide a concise** description of the nature of the problem? Yes/ No
- b. Does it refer to the existing situation of the research problem? Yes/ No
- c. Is the literature supported by relevant references? Yes/ No

**Comments:**

.....  
.....

Justification:

- a. Does it address the need for the study? Yes/ No
- b. Does it refer to the potential benefits of the research findings? Yes/ No
- c. Is it focused? Yes/ No

**Comments:**

.....  
.....

**Objectives:**

- |  |         |
|--|---------|
| a. Does the general objective clearly address the aims of the study? | Yes/ No |
| b. Are the specific objectives derived from the general objective?   | Yes/ No |
| c. Are they arranged in a logical sequence?                          | Yes/ No |
| d. Are they stated in measurable terms using action verbs?           | Yes/ No |
| e. Do they refer to the study population and the study area?         | Yes/ No |
| f. Do they reflect adequate scope of work accepted for a MSc degree? | Yes/ No |

**Comments:**

.....

.....

**3. Methods:**

*A. Study design –*

- |   |         |
|---|---------|
| a. Is it the appropriate design to achieve the stated objectives? | Yes/ No |
|---|---------|

**Comments:**

.....

.....

*B. Study population/s*

- |  |                         |
|--|-------------------------|
| a. Adequately described?                                 | Yes/ No                 |
| b. Inclusion criteria stated correctly as per relevance? | Yes/ No/ Not applicable |
| c. Exclusion criteria stated correctly as per relevance? | Yes/ No/ Not applicable |

**Comments:**

.....

.....

*C. Sample size calculations*

- |  |        |
|--|--------|
| a. Has it being worked out using an appropriate formula?                             | Yes/No |
| b. All items in the formula are described in terms of the proposed study?            | Yes/No |
| c. Are all estimates used in calculations justified based on references?             | Yes/No |
| d. Does the trainee demonstrate a clear understanding of the calculations performed? | Yes/No |

**Comments:**

.....

.....

*D. Sampling technique*

- |   |        |
|---|--------|
| a. Is it the appropriate technique for the study? | Yes/No |
| b. Are all relevant steps described adequately?   | Yes/No |

**Comments:**

.....

.....

*E. Study instruments*

- a. Has the trainee included all the instruments required to achieve the objectives? Yes/No
- b. Does the trainee refer to standardization of observational techniques? Yes/No/ Not applicable

**Comments:**

.....

.....

*Intervention (Applicable only for intervention studies)*

- a. Intervention has been described briefly but clearly Yes/No
- b. Outcomes clearly stated Yes/No

**Comments:**

.....

.....

*Data analysis*

- a. Plan of analysis is described for each specific objective? Yes/ No
- b. Are the proposed analyses appropriate? Yes/ No

**Comments:**

.....

.....

*Ethical Clearance*

- a. Has the trainee described the general ethical aspects that need to be considered? Yes/ No
- b. Has the trainee identified the ethical aspects specific to the study proposed as per relevance?  
Yes/ No/ Not applicable
- c. Has the trainee briefly indicated measures to be taken to minimize ethical issues?  
Yes/ No/ Not applicable

**Comments:**

.....

.....

*F. Definitions of Variables*

- a. The variables specific to the research problem have been defined Yes/ No
- b. Have they been operationalized ? Yes/ No

**Comments:**

.....

.....

**4. Referencing**

- a. Harvard APA style has been used Yes/ No
- b. In-text citations have been written correctly? Yes/ No
- c. Reference list has been written correctly? Yes/ No

**Comments:**

.....  
 .....

**Gantt chart**

- a. All main activities are included and time line is appropriately designed? Yes/No

**Comments:**

.....  
 .....

**5. Budget**

- a. All main likely costs have been included? Yes/No  
 b. The proposed amounts are realistic? Yes/No

**Comments:**

.....  
 .....

**Outcome of Evaluation**

Based on the evaluation indicate your decision with regard to each aspect in the format given below.  
 (Please strike off the inappropriate response)

<b>Item</b>	<b>Justification (if response is negative)</b>
<b>Title:</b> Appropriate / Needs Revision	
<b>Introduction</b> Acceptable/ Needs Revision	
<b>Justification:</b> Acceptable/ Needs Revision	
<b>Objectives:</b> Formulated Correctly/ Incorrectly	
<b>Scope :</b> Adequate/ Inadequate	
<b>Methods: Overall</b> Acceptable/ Needs Revision	
<b>References:</b> Correctly done / Incorrect	
<b>Gantt budget</b> Formulated Correctly/ Incorrectly	
<b>Budget</b> Formulated Correctly/ Incorrectly	

**Decision:**

<b>Overall Decision</b>	<b>Reviewer</b>	<b>Subcommittee</b>	<b>BoS</b>
Approved			
Approved with revisions suggested			
Resubmission with revisions suggested			

Reference: “Guidelines for Dissertation Writing “ (Annex VII)

Signature: .....

Date:.....

Chairperson/ Secretary

## **Annex VII**

### **Guidelines on Dissertation Writing**

The objective of the research component is to develop knowledge and skills of the trainee to plan and conduct a research project using scientific methods, analyze data using basic statistical methods, derive appropriate conclusions and recommendations and to present the findings in a scientific report within the time frame available.

In keeping with the above, the following guidelines are issued with regard to the writing of the dissertation.

#### **1. General:**

The dissertation should be written in the past tense, in a readable manner with no grammatical errors or spelling mistakes. The word count should be between 8000-10 000, It needs to be formatted according to instructions issued by the PGIM (Section 13). The same font should be used throughout the dissertation. Care should be taken not to repeat the same statements over and over again. It should be free from any evidence of plagiarism.

Plagiarism means indication of ideas or words of another person as one's own.

It is avoided by adopting any one of the following three methods:

- a. Quoting: using quotation marks to indicate exactly what someone else wrote and referencing the original source.
- b. Paraphrasing (acceptable): which means putting a passage from source material into your own words by changing the wording, sentence structure and the order of ideas (which may be of the same length as the original) with a reference to the original source.
- c. Summarizing: in your own words the ideas written by someone else and referencing the original source (what is summarized is shorter than the original statement).

All relevant citations to be written conforming to the Harvard APA style (Refer Section No. 10).

If a sentence is begun with a numerical value, it should be written as a word and not as a numeral (Eg: "Ten percent of the population were asthmatics" and not as "10% of the population were asthmatics"). All numbers below 10 (1-9) should be spelt out in the text.

Only standard abbreviations can be used without a description as to what it refers to. All the other abbreviations should be fully described and the abbreviation proposed should be given with in parentheses when it appears for the first time in the text. An acronym at the beginning of a sentence should be fully written. All abbreviations included has to be presented as a list.

#### **2. Title**

The title should be short and concise. It should reflect the essence of the study and make the general objective clear and specify what study population or the universe is studied.

The title **should not** contain the following:

- a. A full stop, unless it is an informative title
- b. Contain phrases such as "Some notes on....." "An investigation into.....". "A study on ....."
- c. Abbreviations, formulas and acronyms

### 3. Abstract

Should be structured under the following headings:

Introduction/ background, Objectives (to include the general objective only), Methods (a concise version of study design, study population, sample size, sampling technique, study instruments and statistical analysis) Results (pertaining to the specific objectives in a concise form) and Conclusions and Recommendations. It should not exceed 350 words.

Key words: Should be derived from the title and minimum of two key words and a maximum of five key words to be included at the end of the abstract.

### 4. Chapter 1- Introduction

Refers to the statement of the problem and consists of three main components:

A. **Background information** : may include subheadings under this as per relevance to the description of the research problems

B. **Justification**

C. **Objectives**

#### A. Background information

- a. The section could begin by defining the research problem(central concept of the study or the dependant variable). Eg: if the study is on “intimate partner violence” define what is meant by it.
- b. A description of the nature of the problem (the discrepancy between what is and what should be) and of the size and severity (magnitude) and distribution of the problem (who is affected, where, since when, and what are the consequences for those affected and for the services).
- c. An analysis of the major factors that may influence the problem (probable causes) and the unknown factors and a discussion of why certain factors need more investigation if the problem is to be fully understood.
- d. A description of any solutions to the problem that have been tried in the past, how well they have worked, and why further research is needed (justification for your study).
- e. A description of socio-economic and cultural characteristics and an overview of health status and the health-care system in the country/district in as far as these are relevant to the problem. Include a few illustrative statistics, if available, to help describe the context in which the problem occurs.

**B. Justification (Sub heading)**–Should consist of a convincing argument on the need for the study based on the gaps identified and how the knowledge generated will be useful and generally applicable to solve the research problem identified.

#### C. Objectives: “General” and “Specific”.

All objectives should be clearly phrased in **operational terms** using **action verbs** and indicating what is done, where (study area) and on whom (study population).

**General objective** is a broad statement of what is to be achieved at the end of the study.

**Specific objectives** should cover all aspects included in the general objective and if required additional areas that may be specifically needed to cover areas related to the general objective. It should be logically sequenced.

### 5. Chapter 2 - Literature review

- a. The chapter should begin by describing the search strategies.
- b. Should include global, regional and local studies as per relevance to the research project embarked

upon.

- c. It should be organized in an orderly manner according to the specific objectives as far as feasible.
- d. Brief description of the methods and essential results (eg: prevalence, Odds Ratios with Confidence Intervals or P values) required for the reader to determine the validity of the data and conclusions of a given study, should be included.
- e. May compare and contrast the findings reported in different studies included.
- f. A critical assessment of the studies included: your opinion on how persuasive the conclusions are in reference to the information provided in the article.
- g. The citations to the articles should be included
- h. Avoid being

## 6. Chapter 3 - Methods

Should consist of the following:

- A. Study design** – the chosen study design to be stated.
- B. Study setting** – details of the study area and the specific location at which the study was conducted.
- C. Study period** – the time period during which the study was conducted.
- D. Study population/s** - should be clearly defined
  - a. Descriptive studies – generally one study population

Analytical studies – minimum of two study populations in terms of study and control groups

- b. Application of “Inclusion” and “Exclusion” criteria or both as per relevance to select the sample from the study population/s should be clearly stated.
- E. Sample size calculations** - The appropriate formula based on the study design should be described in detail. Provide reference (authors/ statistical package). Indicate step by step how the final sample size was computed (eg: substitution of the formula with relevant values).

In case of a descriptive study:

- a. The variable selected to compute the sample size with relevant proportions (the SD if the variable selected is quantitative) should be specified with rationale for selection of the given proportions.
- b. The required precision
- c. The confidence level

Following should be described in case of an analytical study:

- a. Proportions relevant to the two groups
- b. The power
- c. The ratio of study :control

Following should be described if cluster sampling was used

- a. The design effect
- b. Number of clusters and number of study units /cluster

All study designs

- i. Minimum sample size computed
- ii. Allowance added for non response
- iii. Final sample size

**Intervention Studies** – describe all steps of the intervention applied to the study group and the measures applied / not applied to the control group and definitions of outcome variables (applicable only for intervention studies)

## **F. Sampling technique**

General - describe the technique used, step by step in detail.

Eg: Probability sampling:

Refer to the source of the sampling frame, application of inclusion/ exclusion criteria, the final sampling frame and its size, source of random numbers

Analytical studies – describe the sampling technique used for the study/ control groups separately

**G. Study instruments** – All instruments including their English translations should be annexed.

### 1. Questionnaire –

1.1 Type of questionnaire - interviewer / self administered,

1.2 Type of questions open / close ended or mixed

1.3 Main components of the questionnaire should be described broadly:

Eg:

Section 1 - Personal data,

Section 2 - Socio-demographic characteristics,

Section 3 - Knowledge, Attitudes and Practices

1.4 Construction of questionnaire: should be described in detail to provide information on:

a. Source of questions – borrowed from similar questionnaires or designed by the trainee or a combination of both

b. Language - the language it was originally designed and the method adopted to translate it to either English or the language in which it was administered as applicable.

1.5 Scaling of Questionnaires – if the questions were assessed using a scale (eg: Likert Scale) describe in detail how the scores were assigned, what the minimum and maximum possible overall scores were and the basis for the cutoff levels selected.

### 2. Measurements, Laboratory methods and Clinical examination

a. If protocols are used for above – reference to the protocol should be given.

b. Use of equipment for measurements - details including calibration of equipment used and the degree of accuracy specified for the measurement (eg: measurement of weight: to the nearest 0.01 kg) need to be described including each step of the technique which should be either described or referred to.

## **Pilot study / Pre testing**

Pre testing (has to be conducted) and pilot study (if conducted) need to be described in relation to the following aspects:

The sample size, study setting, degree of similarity between the pre-test population and the proposed study participants of the main study, and the relevant administrative procedures. (Please note that the trainee is expected to do pretesting by him/herself).

## **H. Study implementation**

### **I. Quality of data –**

- a. Methods adopted to ensure/assess validity (in terms of face and content validity and consensual validity if feasible) to be described. If the tool used is a validated one (Eg: GHQ-30) a brief description regarding validation to be included giving the reference. If it has not been validated, discuss the implications of using a non validated tool under “limitations” in the chapter on Discussion.
- b. Reliability - may be assessed, if time permits such assessment, and if so, it should be described giving details. If not implications of non assessment of reliability should be discussed under “limitations” in the chapter on “Discussion”.

#### **J. Data analysis –**

“Descriptive” and “Inferential” statistics appropriate to the type of data collected should be applied. The analysis required to achieve each specific objective with the statistical tests that were used should be described, Statistical software that was used and the P value that was taken as the significance level need to be indicated.

#### **K. Ethical issues –**

Describe ethical issues specific to the study and the measures taken to overcome them (if relevant) and the general ethical aspects such as written informed consent, maintenance of confidentiality, assurance of non discrimination if declined to participate and referral for further management (if required). The institution from which ethical clearance was obtained to conduct the study should be included as the final statement only.

### **Definitions of relevant variables**

## **7. Chapter 4 - Results**

### **General**

Presents the data that have been gathered during the investigation. This section provides answers to the problem, stated in the introduction/ objectives.

Commence the chapter by including a general statement about the total sample size and the response rate. It should be followed by description of the sample in terms of relevant socio demographic characteristics. The rest of the chapter should be organized as far as feasible according to the sequence of the specific objectives.

Each relevant variable has to be described in the text under a separate paragraph carrying a subheading. The detailed results should be presented mostly as table form. Figures/charts may be used sparingly according to the need. Only one type of illustrative forms (table or figure and not both) should be used to describe an individual variable. Despite the use of tables/ figures, the salient points relevant to the variable must be written in the text always (the narrative) and it should stand alone where the reader is able to get a clear idea just by referring to the narrative text.

Tables and figures should be numbered according to the order in which it appears in the text. Reference should be made to the tables/ figures in the text and such reference should precede the relevant table/ figure. Text which describes the data in the table/ figure may be placed either before or after the relevant illustrative form.

### **Presenting results**

All variables should be described in the text. Binary data need not be presented using tables/ charts. When the results of a study are presented do not include more than one decimal point unless it has some relevance in relation to the interpretation. Always the percentages should be supported by the relevant

raw data and vice versa.

### **Descriptive statistics**

Quantitative data: should be summarized as mean (standard deviation) or median (inter-quartile range)

Qualitative data: should be expressed as percentages

Rates; incidence / prevalence described with relevant 95% Confidence Intervals

### **Inferential statistics**

a. Quantitative data: describe in detail the type of statistical test used including the P Value

b. Qualitative data:

Associations between variables - cross tabulations of data to be presented with results of the statistical test that was applied including the P value and the 95% confidence interval for the effect measure computed.

### **Features common to Tables :**

Should be presented clearly with the following:

- a. Tables should be self explanatory (the reader should be able to read and understand the information provided in the tables without referring to the text).
- b. Tables should be numbered according to the order in which it appears in the text, using Arabic numerals.
- c. Title should be simple and in a concise, with a clear description of the type of results included (Keep it short and simple/ specific [KISS]).
- d. Title has to be placed above the table and space left between the last line of the title and the table
- e. The captions of columns / rows should be clearly labeled with the relevant units.
- f. The font size may be reduced to 10 if required, but maintain consistency throughout the document with regard to the font size of the text in the tables.
- g. The results reported may be center or right aligned, having selected one , maintain consistency throughout the document
- h. If totals do not add up to the original value (missing data) indicate the frequency of missing data.
- i. Column wise totals and percentages are considered better than row wise totals and percentages.
- j. Give the exact percentage value for the totals computed (Eg: 99.9%).
- k. Try to have the tables as close as possible to the text.
- l. Confine tables to one page as far as feasible.
- m. Abbreviations may be used in the table, but the full description of it should be included as a footnote.
- n. All vertical lines in the tables should be removed but horizontal lines may be left when necessary to separate major sections of the table.
- o. If the data are not original, their source should be given in a footnote.
- p. Reference to the statistical test used should be included in the text/ table, along with the other relevant features of the test which is necessary to interpret the data. (eg: chi square test: degrees of freedom, chi square value and the P value).

### **Features common to both Figures & Charts:**

The figure/chart titles have to be placed below the figure.

## **Units:**

SI units (le Systeme international d'Unites) to be used except for blood pressure measurements (mmHg).

Avoid doing the following:

- a. Do not discuss or interpret your results
- b. Do not present the same data more than once.
- c. Text should complement any figures or tables, not repeat the same information.

## **8. Chapter 5 - Discussion**

Should comprise the following:

- a. Summary of the main findings: should contain minimal data
- b. Explain the findings: whether the results were anticipated or not and if not explain in terms of sampling, measurements, procedural issues, confounding variables
- c. Discussion on unexpected findings
- d. Public health relevance of the findings
- e. Relate the findings to other studies: consistency / inconsistency of findings
- f. Explanation, interpretation and implications of the findings
- g. Discussion on the limitations / possible limits to reliability/ validity of the work in terms of
- h. Problems related designing of the study: sampling, assessment, procedures, and choice of research design
- i. Problems during implementation: sampling issues, non response
- j. Discussion on recommendation
- k. Discuss suggestions for future research (impact on practice)
- l. In summary discuss everything but be brief and specific

**Note: Discussion should not be a repetition of results.**

## **9. Chapter 6 - Conclusions and Recommendations**

### **Conclusions:**

Conclusions should be the answers to the specific objectives written in summary form.

### **Recommendations:**

Recommendations should be relevant and arising out of the study.

They should be practical and clearly stated in terms of implementation:

- a. Remedial action to solve the problem
- b. Further research to fill in gaps in our understanding

## **10. Citations and Reference list**

The Harvard APA style (sixth edition) should be used.

Reference: Enquire Guide To Harvard APA Style Bibliographic Referencing

## **11. Annexes**

Should be numbered using Roman numerals according to the order in which it appears in the text and referred to in the text in the appropriate place.

Note: All documents which contain the identity of the trainee should be removed including the ethical clearance certificate.

## **12. Structure of a Research Report**

- A. Front Matter
- B. Body
- C. End material

### **A. Front Matter**

- a. Cover
- b. Title page
- c. Declaration (Refer Section No. 14)
- d. Abstract
- e. Acknowledgements
- f. Table of contents
- g. List of tables
- h. List of figures & illustrations
- i. List of ANNEXes & appendices
- j. List of abbreviations & symbols

### **B. Body**

- a. Introduction : background statement, Justification and Objectives
- b. Literature review
- c. Methods
- d. Results
- e. Discussion: Including Limitations,
- f. Conclusions and Recommendations

### **C. End Material**

- a. List of references
- b. Annexes / Appendices

#### **12.1 Page Numbering**

**Front Matter:** In Roman numerals (using low case) starting from the Title Page (i, ii, iii, iv.....). The number (i) is not inserted on the Title Page.

**Body and End material:** Arabic numerals (1,2,3,4.....)

**Numbering of Annexes:** In Roman numerals (*Annex I, II, III, IV.....*)

### **13. Formatting of the Dissertation**

*The dissertation should be word processed on both sides of the page on good quality A4 size paper using font style Calibri with a font size of 11. Line spacing should be 1.5. A margin of not less than 40 mm should be left on the left hand side to facilitate binding and margins of not less than 20 mm should be left on the top, right hand side and at the bottom.*

Chapter headings should be capitalized and centered and the subdivision headings should be placed at the left hand margin in lower case bold type lettering.

### **13. Submission of dissertation for the examination**

It is compulsory to submit on or before the stipulated date of submission as decided by the PGIM.

Both the supervisor and the candidate have to sign the “Declaration” (three copies) which should be handed over (but not attached to the dissertation) to the Examination Branch/ PGIM along with three copies of the dissertation (Refer Section No. 14).

All details relevant to identification of the candidate/ supervisor should be removed from the dissertation. These include:

- a. Ethical Clearance Certificate (one copy of the original certificate with all names intact to be handed over to the PGIM with the 3 copies of dissertations).
- b. Letters granting permission issued by the relevant authorities
- c. Acknowledgements

Final submission:

- a. Three copies of the dissertation
- b. Three letters of declaration signed by the supervisor
- c. Ethical clearance certificate

Three copies of the dissertation should be submitted in loose bound form in the first instance. Only the index number of the candidate should be included, but not the candidate's name and degrees.

### **14. Declaration**

**Both supervisor and the candidate have to sign the declarations stated as below which should appear together on a separate page.**

#### **A. Candidate**

“I declare that the work presented here is my original work, and generated from the research conducted by me to fulfill the part requirement of the degree of MSc Community Medicine.

Signature of Candidate:

Name of Candidate:

Date:

#### **B. Supervisor**

“I confirm that I supervised the above indicated work of the candidate”.

Signature of Supervisor:

Name of supervisor:

Date:

### **15. Submission of the final dissertation**

Once the corrections suggested by the examiner have been made and certified by the supervisor, it should be bound in hard cover with the author's name, the degree and year printed in gold on the spine (bottom upwards). The cover should be in black. The front cover should carry the title on top, the author's name in the centre and the year at the bottom printed in gold. Three copies of the dissertation should be submitted to the Director, PGIM within a period of two months after the release of results. Two copies shall be the property of the PGIM while the third copy will be returned to the trainee.

**Important** – All of the above mentioned documents should be attached to the hard bound copy of the dissertation handed over to the PGIM when the candidate passes the MSc Community Medicine examination.

**ANNEX VIII**

**Dissertation Assessment Form**

**Index Number:** .....

**Title / Running Title of Dissertation:**

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**Instructions to Examiners:**

This evaluation form consists of separate sections under the main headings of the components that comprise the Dissertation. Each section except the “Title”, has a maximum mark assigned, which varies from 40% to 50%. For the candidate to be eligible to pass the dissertation, he/she should obtain minimum marks specified for each section with an overall aggregate of  $\geq 50\%$ .

<b>A. Title</b>		<b>Total Marks Assigned = 05</b>		<b>Minimum Mark Required = 0</b>		
1.	Makes the general objective clear	Yes	Partially	Not at all		
2.	Refers to the study population			Yes	No	
3.	Refers to the study setting			Yes	No	
4.	Concise	Yes	Partially	Not at all		
5.	<b>Allocated marks =</b>					

**Comments**

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<b>B. Abstract</b>		<b>Total Marks Assigned = 10</b>	<b>Minimum Mark Required (40%) = 04</b>		
1.	Structured		Yes	No	
2.	General objective clearly stated	Yes	Partially	Not at all	
3.	Methods: brief account on study design & population, sample size, sampling technique, study tools and statistical analysis included	Yes	Partially	Not at all	
4.	Results: provide answers to specific objectives – incidence, prevalence, effect measures etc. with respective 95% CI, P values (as per relevance)	Yes	Partially	Not at all	
5.	Conclusions & Recommendations: arising from results	Yes	Partially	Not at all	
6.	<b>Allocated marks =</b>				

**Comments:**

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<b>C. Introduction</b>		<b>Total Marks Assigned = 20</b>	<b>Minimum Mark Required (40%) = 08</b>		
<b>Background = 14</b>		<b>Minimum Mark Required (40%) = 06</b>			
1	Defines research problem clearly	Yes	Partially	Not at all	
2	Describes research problem adequately	Yes	Partially	Not at all	
3	Relevant statistical information are provided	Yes	Partially	Not at all	
<b>Justification = 6</b>		<b>Minimum Mark Required (40%) = 02</b>			
4	Justification: Focused	Yes	Partially	Not at all	
5	Justification: describes need for the study	Yes	Partially	Not at all	
6	Justification: describes potential benefits of study findings	Yes	Partially	Not at all	
7	<b>Allocated marks =</b>				

**Comments:**

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<b>D. Objectives</b>		<b>Total Marks Assigned =</b> <b>15</b>	<b>Minimum Mark Required (50%) =</b> <b>7.5</b>		
1.	General Objective: covers the scope of study	Yes	Partially	Not at all	
2.	Specific objectives: covers general objective	Yes	Partially	Not at all	
3.	Objectives: stated in measurable terms using action verbs	Yes	Partially	Not at all	
4.	Objectives: refer to study population and study setting	Yes	Partially	Not at all	
5.	Logically sequenced		Yes	No	
6.	<b>Allocated marks =</b>				

**Comments:**

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<b>E. Literature Review</b>		<b>Total Marks Assigned =</b> <b>20</b>	<b>Minimum Mark Required (40%) =</b> <b>08</b>		
01.	Well organized	Yes	Partially	Not at all	
02.	Key studies relevant to the field of research (addressing specific objectives) are included	Yes	Partially	Not at all	
03.	Core information provided in relation to each article is what is relevant to the research study/objectives	Yes	Partially	Not at all	
04.	Has provided adequate core information to arrive at an independent conclusion regarding research findings cited In relation to each article	Yes	Partially	Not at all	
05.	Articles related to methodological aspects relevant to the study have been included (eg: study instruments – General Health Questionnaire [GHQ])	Yes	Partially	Not at all	
06.	Critical analysis of the literature is included as per relevance	Yes	Partially	Not at all	
07.	Demonstrates a thorough knowledge of the subject area	Yes	Partially	Not at all	
08.	In- text citations have been done according to the Harvard system/APA style (6 <sup>th</sup> Edition)	Yes	Partially	Not at all	
09.	Evidence of plagiarism	Yes	Partially	Not at all	

10.	<b>Allocated marks =</b>
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**Comments:**

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<b>F. Methods</b>		<b>Total Marks Assigned = 50</b>	<b>Minimum Mark Required (50%) = 25.0</b>		
01.	<b>Study design/s appropriate to achieve objectives</b>		Yes	Partially	Not at all
02.	<b>Study population:</b>				
	Defined clearly and adequately		Yes	Partially	Not at all
04.	Inclusion criteria: relevant	Not applicable	Yes	Partially	Not at all
	Exclusion criteria: relevant	Not applicable	Yes	Partially	Not at all
03.	<b>Sample size calculation:</b>				
	Correct formula/Formulae used		Yes	Partially	Not at all
	Formula/Formulae described adequately		Yes	Partially	Not at all
	Selected the variable related to the research problem for sample size calculation (eg;P in the single proportion estimation formula)		Yes	Partially	Not at all
	Demonstrates a clear understanding of principle/s related to sample size calculations		Yes	Partially	Not at all
04.	<b>Sampling technique:</b>				
	Applicable to the study		Yes	Partially	Not at all
	All steps described in detail as applicable		Yes	Partially	Not at all
	Cluster sampling: selection of clusters described in detail		Yes	Partially	Not applicable
05.	<b>Study Instruments/Tools:</b>				
	All relevant instruments required to achieve objectives have been mentioned		Yes	Partially	Not at all
	Techniques are described in detail		Yes	Partially	Not at all
	Techniques/methods of standardization of data collection procedures described as per relevance		Yes	Partially	Not at all

	Calibration method/s mentioned as per relevance	Yes	Partially	Not at all
	<b>Questionnaires:</b>			
	Translation procedure described	Yes	Partially	Not at all
	Translations correctly done	Yes	Partially	Not at all
	Broad components described adequately & clearly	Yes	Partially	Not at all
	Describes the scoring system adopted clearly (eg: KAP studies, screening for diseases)	Yes	Partially	Not applicable
06.	<b>Data collectors/ collection:</b>			
	Profile of data collectors described	Yes	Partially	Not at all
	Training of data collectors described adequately	Yes	Partially	Not at all
	Data collection procedure described adequately	Yes	Partially	Not at all
07.	<b>Pre testing:</b>			
	Pre testing has been conducted	Yes	Partially	Not at all
	Appropriate study population chosen for pre testing	Yes	Partially	Not at all
08.	<b>Validity of Instruments/Tools :</b>			
	Judgmental validity described: face, content & consensual	Yes	Partially	Not at all
	Construct validity described (as reported in literature)	Yes	Partially	Not at all
	Criterion validity described (as reported in literature)	Yes	Partially	Not at all

**Methods Continued**

F. Methods	Total Marks Assigned = 50	Minimum Mark Required (50%) = 25.0		
09	<b>Reliability of Instruments /Tools (as reported in literature):</b>			
	Internal consistency described - eg: Chronbach's alpha	Yes	Partially	Not at all
	Test re-test described - eg: Kappa coefficient.			
	Computed for the study (optional)	Done	Satisfactor y	Not done
10	<b>Statistical analysis:</b>			
	Scores (knowledge, attitudes etc) as applicable:			
	Details of scoring each item in the tool described clearly	Yes	Partially	Not at all
	Details of deriving overall score described clearly	Yes	Partially	Not at all
	Cut off values to categorize sample (eg; good/poor knowledge)			
	into appropriate sub groups described clearly	Yes	Partially	Not at all
	<b>Descriptive statistics:</b>			
	Quantitative data – summarized as mean, SD & range or 95% Confidence intervals/median & IQR & range (as per relevance)	Yes	Partially	Not at all
	Qualitative data – incidence/ prevalence and other relevant proportions/percentages described with 95% CI	Yes	Partially	Not at all
	<b>Inferential statistics:</b>			
	Variables tested for bivariate analysis described clearly	Yes	Partially	Not at all
	Amalgamated (pooled data) levels indicated (if applicable)	Yes	Partially	Not at all
	Method of controlling confounding factors included (optional)	Yes	Partially	Not at all
	Stated how results will be expressed (eg: P value and odds ratio)			





<b>G. Results</b>		<b>Total Marks Assigned = 40</b>	<b>Minimum Mark Required (50%) = 20</b>		
01	Commences describing response rate				
02.	Sample- socio-demographic data described adequately	Yes	Partially	Not at all	
03	<b>Text:</b>				
	Well organized according to major components/specific objectives with relevant subheadings	Yes	Partially	Not at all	
	Text referring to individual table precedes relevant table	Yes	Partially	Not at all	
	Text referring to individual chart precedes relevant figure	Yes	Partially	Not at all	
	Individual variables under broad components are described under subheadings	Yes	Partially	Not at all	
	Salient data depicted in tables/figures described in text is self explanatory	Yes	Partially	Not at all	
	Association of variables are described in text with a clear/correct interpretation based on effect measures, 95% confidence limits & P values	Yes	Partially	Not at all	
	Described control of confounding factors (optional)	Yes	Partially	Not applicable	
	<b>Tables:</b>				
	Properly formatted	Yes	Partially	Not at all	
	Numbered according to sequence of tables		Yes	No	
	Titles placed above the table		Yes	No	
	Titles reflect the essence of data included in table	Yes	Partially	Not at all	
	Column titles are clearly stated	Yes	Partially	Not at all	
	Row titles are clearly stated	Yes	Partially	Not at all	
	Data presented with relevant percentages	Yes	Partially	Not at all	
	Denominators to compute percentages are clearly stated	Yes	Partially	Not at all	
	Findings are based on appropriate statistical analysis	Yes	Partially	Not at all	
	Odds ratios/effect measures are described according to the manner data have been presented in 2 by 2 tables	Yes	Partially	Not at all	
	Statistical tests mentioned with relevant details (eg: test statistic, P values, degrees of freedom, pooled data etc.)	Yes	Partially	Not at all	
	Self explanatory - needs no reference to text, to understand	Yes	Partially	Not at all	
05.	<b>Charts/Figures (Not essential)</b>				



<b>H. Discussion</b>		<b>Total Marks Assigned = 45</b>	<b>Minimum Mark Required (45%) = 20.2</b>		
01.	Commencing paragraph summarizes research findings	Yes	Partially	Not at all	
02.	Quality of data				
	Validity: discussed in terms of own study or as reported in Literature	Yes	Partially	Not at all	
	Reliability: discussed in terms of own study or as reported in Literature	Yes	Partially	Not at all	
02.	Refers to both positive & negative results	Yes	Partially	Not at all	
03.	Provides scientifically plausible explanations to the findings of the study results	Yes	Partially	Not at all	
04.	Compared and contrasted results adequately with similar studies reported	Yes	Partially	Not at all	
05.	Research methods chosen have been justified adequately (study design, sample size, sampling, tools, data collection)	Yes	Partially	Not at all	
06.	Statistical analysis justified as per relevance	Yes	Partially	Not at all	
07.	Need for control of confounding factors discussed (essential even if not analysed)	Yes	Partially	Not at all	
08.	Analysed individual effect measures/outcomes and discussed In terms of strength of association, precision & measures to Improve	Yes	Partially	Not at all	
09.	Bias identified by type (eg: selection/information bias)	Yes	Partially	Not at all	
10.	Bias described (eg: how non response leads to selection bias)	Yes	Partially	Not at all	
11.	Described type of bias correctly & clearly	Yes	Partially	Not at all	
12.	Described measures taken to minimize relevant bias	Yes	Partially	Not at all	
13.	Limitations described in terms of bias & other relevant factors	Yes	Partially	Not at all	
14.	Internal validity: described in terms of controlling bias	Yes	Partially	Not at all	
15.	Refers to strengths of the study (optional)	Yes	No	Not applicable	
16.	Describes the public health relevance of findings	Yes	Partially	Not at all	
17.	Describes the implications of the findings if any	Yes	Partially	Not at all	
18.	Described external validity ( generalizability)	Yes	Partially	Not at all	
19.	Recommendations are discussed in terms of practicality	Yes	Partially	Not at all	
20.	Refers to literature in terms of recommendations proposed	Yes	No	Not applicable	
21.	Explicitly stated the criteria used when making critical judgments (when a critical review of what is reported in the literature is included)	Yes	Partially	Not at all	
22.	Refers to relevant tables pertaining to the result/s discussed	Yes	Partially	Not at all	









**Final Marks**

Component		Marks				Pass/ Fail Status Of Each Section
		Total Marks Assigned Per Section	Minimum % To Pass Each Section	Minimum Marks To Pass Each Section	Marks Assigned	
<b>A.</b>	<b>Title</b>	05	-	-		
<b>B.</b>	<b>Abstract</b>	10	40%	4.0		
<b>C.</b>	<b>Introduction</b>	20	40%	8.0		
<b>D.</b>	<b>Objectives</b>	15	50%	7.5		
<b>E.</b>	<b>Literature Review</b>	20	40%	8.0		
<b>F.</b>	<b>Methods</b>	50	50%	25.0		
<b>G.</b>	<b>Results</b>	40	50%	20.0		
<b>H.</b>	<b>Discussion</b>	45	45%	20.2		
<b>I.</b>	<b>Conclusions</b>	05	40%	2.0		
<b>J.</b>	<b>Recommendations</b>	05	40%	2.0		
<b>K.</b>	<b>Reference List</b>	15	50%	7.5		
<b>L.</b>	<b>Overall</b>	20	50%	10.0		
<b>Total</b>		250	-	114.2		
<b>Total expressed as a percentage</b>		100%	-	45.7%		
<b>Total aggregate required to pass = <math>\geq 50\%</math></b>						

**Annex IX**



**POSTGRADUATE INSTITUTE OF MEDICINE  
UNIVERSITY OF COLOMBO, SRI LANKA**

**LOG BOOK**

**MASTER OF SCIENCE (MSc)  
IN  
COMMUNITY DENTISTRY**

**2013**

**BOARD OF STUDY IN  
COMMUNITY DENTISTRY**

**LOG BOOK ENTRIES**

**Field Training in Practical skills in Community Care**

**MSc/CD-18**

**Health Services Delivery in the field setting**

The trainees are expected to observe and critically review each of the following field activities at the divisional (MOH) level. The critical review will be based on a power point presentation (10 – 15 slides) made by a group of 2 -3 trainees followed by a discussion involving the whole group.

The trainer/s will have to certify that each individual trainee has attended to the following:

1. Observed each individual field activity related to service delivery (Table 1).
2. Contributed to developing and presenting at least one critical review (analyzing the factors affecting the quality and coverage) of one such service delivery (Table 2).
3. Actively participated in the discussion that ensued (Table 2).

**Table 1 – Observation of Field Activity**

<b>Field Activity</b>	<b>Date</b>	<b>Signature</b>	<b>Name / Trainer</b>
<b>01</b> Immunization program			
<b>02</b> Poly Clinic			
<b>03</b> Status of a PHM office			
<b>04</b> Status of a PHI office			
<b>05</b> Disease surveillance			
<b>06</b> Status of a MOH office			
<b>07</b> School Health program			
<b>08</b> Progress review meeting			
<b>09</b> Health education session			
<b>09</b> Health education program			
<b>10</b> A health promotion project			
<b>11</b> Food sanitation program			
<b>12</b> A special health program			
<b>13</b> Inter-sectoral coordination for health development			

Table 2

Critical review on: .....

	Participated in developing & presentation of the review	Participated actively in the discussion
Date		
Signature of Trainer:		
Name of Trainer:		



**Annex X**

**POSTGRADUATE INSTITUTE OF MEDICINE  
UNIVERSITY OF COLOMBO, SRI LANKA**

**TRAINING PORTFOLIO**

**MASTER OF SCIENCE (MSc)  
IN  
COMMUNITY DENTISTRY**

**2013**

**BOARD OF STUDY IN  
COMMUNITY MEDICINE**

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**Personal Details**

Family Name (Surname) : .....  
Fore names : .....  
Address : .....  
Contact telephone No : .....  
Sex : .....  
Date of Birth : .....  
Date and University of  
Graduation:.....

Pre-Registration Appointments (Grade/Specialty/Hospital):

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.....

Post-Registration Appointments (Grade/Specialty/Hospital):

.....  
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.....

Date of passing Selection Examination 1:.....

Date of entry to training programme:.....

## **PORTFOLIO**

### **Introduction**

The trainee should maintain a Portfolio to document and reflect on his/her training experience and identify and correct any weaknesses in the competencies expected of him, and also to recognize and analyze any significant clinical and field events experienced, so that appropriate changes in management could be adopted in order to reduce the risks arising from such situations in the future.

The Portfolio should be maintained from the time of entry to the training programme. **It has to be maintained to record different activities listed below in each component during Field Training in Clinical & Practical Skills.** The Supervisors/trainers are expected to review the candidate's progress at regular intervals. It is the responsibility of the trainee to obtain the signature of the trainer.

The final Portfolio should contain the following documents:

1. Certification of procedural skills – ANNEX X
2. Reflective writing on three selected procedural skills – ANNEX
3. Evidence on continuing professional development (CPD)

CPD Activities - should contain a collection of papers and other forms of evidence to demonstrate that learning has taken place in terms of the learning outcomes of the community based clinical and practical training. It should be a collection of trainee's work that exhibits his / her efforts, progress and achievements in this module. The trainees are free to include any material which demonstrates the achievement of learning goals in the portfolio.

### **Submission**

The trainees will have to submit the learning portfolio in order to be eligible to sit for the final examination.

**The completed Portfolio should be submitted to the PGIM within two weeks following completion of Field Training in Clinical & Practical Skills.**

### **Mentorship**

Each trainee will be allocated a mentor to provide guidance to complete the portfolio.

### **Components under reflective writing**

There shall be three components under this. The trainee should ensure that all activities in components included are complete and accurate. The portfolio should be with the trainee at all times during the relevant training activities and should be made available to the trainer or a member appointed by the BOS for inspection.

**COMPONENTS****Component 1****Development of clinical and practical competencies which are pertinent to field oral health services delivery**

There are 6 items of procedures that need hands on training to confirm that the trainee possesses the required skills. Demonstration of selected procedures shall take place at a different location than the location in which hands on training shall take place. The procedures and the location of observing and practicing the procedures are listed in the table below:

**Table 1 - The procedures and location**

Procedure		Location*	
		Demonstration	Practice
01	Screening for oral cancer and oral potentially malignant disorder	Oral cancer unit, NCCP	Oral cancer unit, NCCP
02	Application of fluoride gels	IOH Maharagama DI Colombo	IOH Maharagama DI Colombo
03	Application of fluoride varnishes	IOH Maharagama DI Colombo	IOH Maharagama DI Colombo
04	Application of fissure sealants	IOH Maharagama DI Colombo	IOH Maharagama DI Colombo
05	Screening pregnant mothers for oral disease	IOH Maharagama	IOH Maharagama
06	Dietary counseling for high risk groups	IOH Maharagama DI Colombo	IOH Maharagama DI Colombo

\*Location: may be changed subject to availability of facilities and trainers, with prior notification

The procedures listed above should be observed twice, when demonstrated by a competent trainer, after which the trainee has to perform (P) the procedure correctly adhering to standard techniques, twice under supervision of the trainer. Finally the trainee should obtain the signature from the trainer to certify satisfactory completion (Table 2). Throughout the procedure the trainer and trainee should engage in a discussion related to the following:

- The trainee reflects on what he/she did well during the procedure
- The trainer contributes to the discussion by adding what he/she did well
- The trainee reflects on what he/she should have done well
- The trainer contributes to the discussion by guiding the trainee on areas to be improved
- Both the trainer and the trainee discuss the ways and means of improving the skill

**Table 2 – Certification of procedures**

Procedure		Observation		Performance	
		Occasion 1	Occasion 2	Occasion 1	Occasion 2
01	Screening for oral cancer and oral potentially malignant disorder				
02	Application of fluoride gels				
03	Application of fluoride varnishes				
04	Application of fissure sealants				
05	Screening pregnant mothers for oral disease				

**Component 2****Prepare a report for three of the procedures carried out above**

The trainee is expected to prepare a report (number of words 200) for any three (3) procedures: mentioned in Table 1

The report should discuss trainee's personal strengths and weaknesses, strengths and weaknesses highlighted by the trainer, and a how further learning is planned to improve the weaknesses. These selected entries for reflective writing should be structured according to the four stages described in Kolb's (1984) reflective cycle as follows:

1. Stage 1: Concrete Experience - doing and having the experience
2. Stage 2 : Reflective Observation – reviewing and reflecting on the experience. A description of what happened and what your feelings were at the time.
3. Stage 3 : Abstract Conceptualization - concluding and learning from the experience
4. Stage 4: Active Experimentation – plan/practice the concepts developed in stage 3, so that when the concrete experience (Stage 1) occurs again, you take an action different to what you did when you experienced the concrete action (Stage1) in the previous occasion .

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Reference:

Kolb, D. A. (1984). *Experiential Learning: Experience as a Source of Learning and Development*. Englewood Cliffs, NJ: Prentice-Hall.

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**Component 3**

**Any other material which demonstrate trainee’s achievement of learning goals**

The portfolio may contain any other material which demonstrates trainee’s achievement of learning goals. Some examples are provided below:

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Two case histories and management plans from each clinical discipline that the trainee has discussed with the trainer during their hospital training and field training.

1. Reports on presentations you have made at journal clubs, lectures etc. and feedback received from peers or supervisors on such presentations.
2. Printouts of the MS Power Point presentations
3. Certificates in participating in CPD Sessions
4. Certificate of attendance in other clinical and professional meetings such as workshop and academic sessions.

**Date submitted to the PGIM:** ...../...../.....

**Date submitted to the BOS:** ...../...../.....

.....  
**Signature of the Chairperson/Secretary**