ರಾಜೀವ್ ಗಾಂಧಿ ಆರೋಗ್ಯ ವಿಜ್ಞಾನಗಳ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು
Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore
4th T Block, Jayanagar, Bangalore – 560 041

AUTH/REV-MPH/16/2015-16 12/08/2015

NOTIFICATION

Sub: Ordinance relating to revised syllabus of **Masters in Public Health.**

Ref:1) Recommendations of Board of Studies in Allied Health Sciences, through its meeting dated 06.05.2015.

2) Approval of Academic Council through its meeting dated 28.05.2015

3) Approval of Syndicate in its 113th Meeting held on 26.06.2015

In exercise of the powers conferred by Section 35(2) of RGUHS Act 1994, the Syndicate in its 113th meeting held on 26/06/2015, is pleased to notify the Approval of ordinance relating to revised Syllabus of **Masters in Public Health (MPH)** as shown in Annexure appended herewith.

The Ordinance shall come into force from the academic year 2015-16.

By Order,

(Dr.S.Sacchidanand)
REGISTRAR

To:
The Principals of colleges affiliated to RGUHS conducting MPH course.

Copy to:

1. The Principal Secretary to Governor, Governor's Secretariat, Raj Bhavan, Bangalore – 560 001.
2. Principal Secretary to Government, Health & Family Welfare Department, (Medical Education), Vikasa Soudha, Bangalore –560 001.
3. The Director, Department of Medical Education, Anand Rao Circle, Bangalore – 560 009.
4. PA to Vice-Chancellor / Registrar / Registrar (Eva.) / Finance Officer.
5. Director, Curriculum Development Cell.
6. The System Analyst, RGUHS to host it on RGUHS Website.
7. Guard File / Office Copy.

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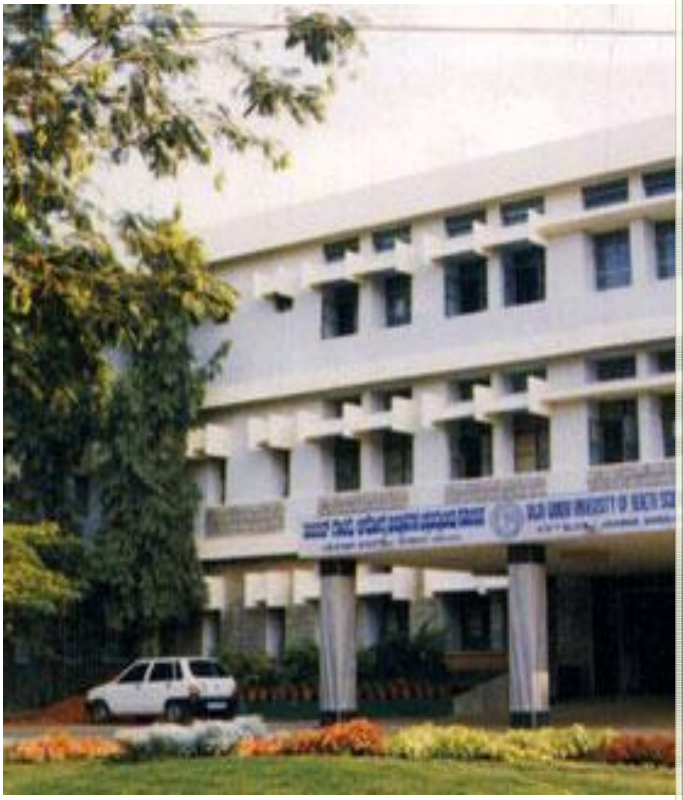
MASTERS IN PUBLIC HEALTH



Rajiv Gandhi University of Health Sciences, Karnataka
4th 'T' Block, Jayanagar, Bangalore - 560 041

MASTERS IN PUBLIC HEALTH

Regulations and Curriculum

Rajiv Gandhi University of Health Sciences, Karnataka
4th 'T' Block, Jayanagar, Bangalore - 560 041

The Emblem

The Emblem of the Rajiv Gandhi University of Health Sciences is a symbolic expression of the confluence of both Eastern and Western Health Sciences. A central wand with entwined snakes symbolises Greek and Roman Gods of Health called Hermis and Mercury is adapted as symbol of modern medical science. The pot above depicts Amrutha Kalasham of Dhanvanthri the father of all Health Sciences. The wings above it depicts Human Soul called Hamsa (Swan) in Indian philosophy. The rising Sun at the top symbolises knowledge and enlightenment. The two twigs of leaves in western philosophy symbolises Olive branches, which is an expression of Peace, Love and Harmony. In Hindu Philosophy it depicts the Vanaspathi (also called as Oushadi) held in the hands of Dhanvanthri, which are the source of all Medicines. The lamp at the bottom depicts human energy (kundalini). The script "Devahitham Yadayahu" inside the lamp is taken from Upanishath Shanthi Manthram (Bhadram Karnebhi Shrunuyanadev…), which says "**May we live the full span of our lives allotted by God in perfect health**" which is the motto of the Rajiv Gandhi University of Health Sciences.

Vision Statement

The Rajiv Gandhi University of Health Sciences, Karnataka, aims at bringing about a confluence of both Eastern and Western Health Sciences to enable the humankind "Live the full span of our lives allotted by God in Perfect Health"

It would strive for achievement of academic excellence by Educating and Training

Health Professionals who

- Shall recognize health needs of community,
- Carry out professional obligations Ethically and Equitably and in keeping with National Health Policy,

It would promote development of scientific temper and Health Sciences Research.

It would encourage inculcation of Social Accountability amongst students, teachers and Institutions.

It would Support Quality Assurance for all its educational programmes.

Motto

Right for Rightful Health Sciences Education

CONTENTS

SECTION I

Curriculum

Scope of Public Health

Public Health is the science and art of promoting health, preventing disease, and prolonging life through the organized efforts of the society. Scientific basis for public health practice is provided by study of epidemiology, bio-statistics, environment, demography, nutrition, and economics, social and biological sciences. While epidemiology plays a central role, social sciences make essential contributions in the study of determinants of health, and in the development and evaluation of effective public health interventions. Public health actions are directed at whole populations so as to provide safe environment, healthier food and accessible health care.

Despite the successes of the past, current challenges for public health are plentiful. There is a great need for development of public health policies and programs for prolonging healthy life expectancy. Emerging health transition shows that while old threats of communicable diseases continue, new infectious diseases may appear, and increasing incidence of non-communicable disease will overburden the health system in future. A cadre

of Public Health Specialists who have sound scientific knowledge and skills to practice public health are required to tackle these emerging problems.

Government of India has highlighted in the National Health Policy 2002 that a large number of specialists should be trained in Public Health. World Health Organization has also emphasized in Calcutta Declaration, the need for Public Health Training.

It is a well-known fact that underlying causes of various diseases very often lie in socio-economic, environmental and behavioural domains rather than in the biomedicine. Thus, with training, both non-medical and medical persons can make contribution to develop Public Health. As physicians have to attend to the pressing needs of the ailing persons, there is acute shortage of public health physicians throughout the world including India. Therefore, in several countries postgraduate courses in public health are being offered for both medical and non-medical graduates. The emphasis in such educational programs as recommended by WHO is on a thorough training in public health administration as well as in epidemiology along with the study of relevant aspects of environmental and social sciences, i.e., health economics, health psychology and sociology.

SOCIAL RELEVANCE Planned improvement in Health system performance can be facilitated by training adequate numbers of policy making and management personnel, including public health specialties, policy analysis, hospital administrators and managers and drug management specialties. These skills are in short supply in most developing countries including India.

Public Health often receives little attention in basic medical curricula, specialty training is often inadequate and courses in Medical Schools may be too academic and not relevant to local problems and their needs. Many countries are exploring and implementing multidisciplinary training programs that include management and communication techniques as well as the traditional public health sciences.

The mission of the MPH program is to provide leadership and expertise in the fields of public health and epidemiology, health education, developing, health promotion, research and service and endorses the perspective on health promotion as defined by the World Health Organisation (WHO) “Health promotion is the process of enabling individuals, groups and communities to Increase control over the determinants of their health and thereby improve their health”.

As public health professionals must act as linking pins between theory and practice, between research and reality, they must be able to communicate effectively with a wide variety of other professionals and people from academia, bureaucracies and service organization in health and development. Therefore the MPH Programme is designed with strong foundation in core subjects such as biostatistics, epidemiology, social and behavioural sciences, health policy, environmental and occupational health as well as other subjects. For accomplishing the mission of the division, various disciplines are involved in the understanding of societal, cultural,

biochemical and socio-psychological factors that maintain health or cause disease. The curriculum and the learning process are thus drawn by recognition of multilayered multidisciplinary dimension of public health and development issues in a global perspective.

Objectives of MPH Programme

The program is designed to focus on the acquisition of knowledge and skills applicable to a career in Public Health, for catalyzing the "Health for all" revolution**.**

Upon completion of the programme, the postgraduate will be able to :

- Describe the origin and evolution of public health;
- Understand and assess the health status of populations, determinants of health and illness;
- Describe the factors contributing to health promotion and disease prevention;
- Understand epidemiological principles and statistical techniques;
- Plan, implement and evaluate health and development programme;
- Understand the influences of social, cultural, biochemical and socio psychological factors on health and disease;
- Apply the principles of health promotion in health and development strategies;
- Conduct empirical studies, by formulation of a question of social relevance, collection of reliable and valid data, documentation of the findings, preparing project proposals and its management;
- Contribute to the public health profession through sound professional public health attitudes, values, concepts and ethical practices
- Professionally manage a health/development system.
- Apply principles of environmental health sciences (exposure assessment, toxicology, environmental epidemiology) and risk assessment to evaluate environmental and occupational factors that impact health
- Analyze health policy using sound policy analysis procedure
- Analyze the social and behavioural factors affecting health of individuals and populations
- Apply critical thinking and systems thinking to analysis of public health problems;
- Demonstrate team building, negotiation, and conflict management skills and use of collaborative methods for achieving organizational and community health goals
- Build community capacity to solve public health problems through designing effective public health programs and collaborations.

Regulations

Eligibility

Candidates for admission to Masters in Public Health (MPH) course should have completed any bachelor's degree with minimum 50% marks from any university established under law considered equivalent thereto by RGUHS. Preference shall be given to candidates from health sciences. For international candidates their degree should be recognized by AIU.

Medium of Instruction

English shall be the medium of instruction for the subjects of study as well as for the examination.

Duration of study

The duration of the course shall be on full time basis for a period of **two** years (Four Semesters) from the commencement of the academic term.

Choice Based Credit System (CBCS)

The MPH program shall follow Choice Based Credit System, which provides choice for students to select from the prescribed courses (Core, Electives/Minor and Concentration).

Course of study

The course shall be pursued on full time basis. No candidate shall be permitted to work in a health care facility or a related organization or laboratory or any other organizations outside the institution while studying the course. No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study.

Pedagogical Approaches

Books are the best teachers, but experience makes man perfect. The proficient and lively theory classes shall be equally blended with various practical applications and group activities such as:

1. Assignment
2. Group Discussions
3. Role Plays
4. Case Studies
5. Seminar Presentations
6. Concurrent Placement
7. Management Games
8. Extempore Sessions

9. Self assessment and Transactional analysis
10. Negotiations
11. O.B. Lab experiments
12. Workshop
13. Field Studies
14. O.B. Quiz
15. In basket exercises
16. Brain Storming
17. Blended Learning
18. Problem Based Learning

All these aimed for the overall development of the emerging health system administrators, especially in decision making, critical analysis and assessment of situations, creative thinking and proactive measures towards system management.

In order to complete the MPH program all candidates must fulfil the following requirements irrespective of concentration.

- *Candidates must complete core courses. (minimum 15 courses)*
- *Project work/ research work*
- *Field experience/ Internship*

Candidates from non health science background must complete training in fundamental courses listed below

- *Human Anatomy and Physiology*
- *Pathology and Microbiology*
- *Medical Terminology*

However there shall not be any university examination conducted for the fundamental courses. Exams will be conducted at the institutional level.

Candidates can complete the fundamental course before start of the first semester or during the first semester.

Subjects

Table – 1. Subjects prescribed for the four semesters MPH

Year	Sl. No	Subject
Semester-1	1	Introduction to Public Health Practice
	2	Principles of Epidemiology

	3	Biostatistics
	4	Social and Behavioural Health
	5	Environment and Occupational Health
Semester-2	6	Health Systems Management and Program Planning
	7	Global health and Diseases of Public Health Importance
	8	Research Methodology and Ethics in Public Health Practice
	9	Public Health Informatics
	10	Population Health (Maternal, Child Health and Family Welfare)
Semester-3	11	Public Health In Rural and Urban Areas
	12	Emergencies And Disaster Management
	13	Health Policy, Health Economics and Health Financing
	14	Public Health Leadership
	15	Public Health Nutrition
Semester-4	16	Public Health Project/Field Experience

MPH with Concentration

A concentration provides students to focus on a specific area of interest during the third semester. Candidates opting for concentration must complete a set of required courses as specified by the concentration area. Candidates who wish to specialise in area of interest, can select MPH with concentration in subjects mentioned below.

1. Biostatistics and Epidemiology
2. Public Health Informatics
3. Environmental and Occupational Health
4. Health Systems Management and Health financing

Candidates opting for MPH concentration can choose their area of specialization at the end of first semester. The same shall be intimated to the university two months before the start of third semester. Those candidates opting for concentration shall undergo training in two subjects in area of specialization and select three optional subjects from Electives.

Electives: This MPH program provides candidates to opt elective courses of their choice. Students are not restricted in their choice of selection of elective courses. However, after choosing the electives, if the students need a change of electives, it has to be done 3 weeks before the start of 3rd semester.

Table–2.Optional Subjects (Electives) prescribed for the Third Semester Concentration in MPH.

Year	Sl.No	Elective Subjects
Semester-3 optional subjects	1	Public Health in Rural and Urban Areas
	2	Emergencies And Disaster Management
	3	Health Policy, Health Economics and Health Financing
	4	Public Health Leadership
	5	Public Health Nutrition
	6	Health and human rights
	7	Health education and Health Promotion
	8	Aging Population

For candidates opting for Concentration, focus would be on self learning, research, critical review, assessment, planning and implementation of programs and policy issues under the guidance of subject expert.

Selection of Concentration

Candidates opting for MPH with concentration shall apply to the respective departments. The candidates along with application have to submit a statement of purpose, their work experience in the area of specialization if any. The respective departments shall have a selection process either by group discussion or interview to select the candidates. There shall not be more than 5 candidates for each specialization in a department. Only one area of concentration may be selected.

Application Process

Each candidate can apply to any two departments of his/her choice giving the preference of Concentration. (Preference one and two)

Based on the application, statement of purpose, group discussion/interview the department shall select the candidates.

Candidates who have been selected in two departments shall select the area of Concentration within one week from the date of announcement of selection. In the event the candidate withdraws from Concentration the seat automatically goes the next candidate in merit list.

Candidates who have not been selected in a specific department (preference one) can attend the selection process in another department (preference two) of his/her choice.

In the event the candidate is not selected in any of the applied department, he/she shall continue with the regular MPH program without Concentration.

Candidates shall not be permitted to change into a new concentration area to another concentration after the end of second semester. Only one change shall be permitted before the end of second semester.

Table–3.Subjects prescribed for the four semesters MPH Concentration in Biostatistics and Epidemiology

Year	Sl. No	Subject
Semester-1	1	Introduction to Public Health Practice
	2	Principles of Epidemiology
	3	Biostatistics
	4	Social and Behavioural Health
	5	Environment and Occupational Health
Semester-2	6	Health Systems Management and Program Planning
	7	Global health and Diseases of Public Health Importance
	8	Research Methodology and Ethics in Public Health Practice
	9	Public Health Informatics
	10	Population Health (Maternal, Child Health and Family Welfare)
Semester-3	11	Applied epidemiology
	12	**Applied Biostatistics** and Data Analytics
	13	Optional subject from Electives (Table 2)
	14	Optional subject from Electives (Table 2)
	15	Optional subject from Electives (Table 2)

Semester-4	16	Public Health Project/Field Experience

Table–4.Subjects prescribed for the four Semesters MPH Concentrations in Public Health Informatics

Year	Sl. No	Subject
Semester-1	1	Introduction to Public Health Practice
	2	Principles of Epidemiology
	3	Biostatistics
	4	Social and Behavioural Health
	5	Environment and Occupational Health
Semester-2	6	Health Systems Management and Program Planning
	7	Global Health and Diseases of Public Health Importance
	8	Research Methodology and Ethics in Public Health Practice
	9	Public Health Informatics
	10	Population Health (Maternal, Child Health and Family Welfare)
Semester-3	11	Database Technologies , Data Warehousing and Data mining
	12	Software Engineering, Project Development and Management
	13	Optional subject from Electives (Table 2)
	14	Optional subject from Electives (Table 2)
	15	Optional subject from Electives (Table 2)
Semester-4	16	Public Health Project/Field Experience

Table–5.Subjects prescribed for the four semesters MPH Concentration in Environment and Occupational Health.

Year	Sl. No	Subject
Semester-1	1	Introduction to Public Health Practice
	2	Principles of Epidemiology
	3	Biostatistics
	4	Social and Behavioural Health
	5	Environmental and Occupational Health
Semester-2	6	Health Systems Management and Program Planning
	7	Global Health and Diseases of Public Health Importance
	8	Research Methodology and Ethics in Public Health Practice
	9	Public Health Informatics
	10	Population Health (Maternal, Child Health and Family Welfare)
Semester-3	11	Environment Health
	12	Occupational Health
	13	Optional subject from Electives (Table 2)
	14	Optional subject from Electives (Table 2)
	15	Optional subject from Electives (Table 2)
Semester-4	16	Public Health Project/Field Experience

Table–6.Subjects prescribed for the four semesters MPH Concentration in Health Systems Management and Health Financing

Year	Sl. No	Subject
Semester-1	1	Introduction to Public Health Practice
	2	Principles of Epidemiology
	3	Biostatistics
	4	Social and Behavioural Health
	5	Environmental and Occupational Health
Semester-2	6	Health Systems Management and Program Planning
	7	Global Health and Diseases of Public Health Importance
	8	Research Methodology and Ethics in Public Health Practice
	9	Public Health Informatics
	10	Population Health (Maternal, Child Health and Family Welfare)
Semester-3	11	Health Systems Management- 2
	12	Health Financing
	13	Optional subject from Electives (Table 2)
	14	Optional subject from Electives (Table 2)
	15	Optional subject from Electives (Table 2)
Semester-4	16	Public Health Project/Field Experience

Degree Awarded

- Candidate who successfully completes two years of MPH program shall be awarded Masters in Public Health degree.
- Candidates who successfully complete two years of MPH program with Concentration shall be awarded Masters in Public Health. However the Concentration shall be mentioned in the academic transcripts (Concentration mentioned in parenthesis) Example:
- Masters in Public Health (Biostatistics and Epidemiology)
- Masters in Public Health (Public Health Informatics)
- Masters in Public Health (Environment and Occupational Health)
- Masters in Public Health (Health Systems Management and Health Financing)

Teaching hours and Credits

The teaching hours for first to fourth semesters are shown in Table 7

Teaching hours

Theory
3 hours per week X 4 weeks X 5 months = 60 hours (4 credits)

Practical/Field Visit/Exposure/Seminars
2 hours per week X 4 weeks X 5 months = 40 hours

5 subjects per semester for 3 semester, + final semester project/ field experience

Total 1500 + 600 = 2100 hours

Semester	Theory	Healthcare organization/Practical training / Field Visit	Total
First	300	200	500
Second	300	200	500
Third	300	200	500
Fourth	NA	600	600
Total	900	1200	2100

Table 7. Distribution of Teaching hours for Theory / Practical training and Field Visit

Theory: 15 theory classes in first, second and third semester per week and 10 hours of practical per week.

Practical exposure

Healthcare organization/ Community centres / Practical training/Discussion/Exposure visits:

The students shall spend on an average 2 hours per day training. All candidates shall undergo training in various PHC's, NGO's, and Government Healthcare Organizations. They will prepare a report at the end of each posting and the same should be evaluated by the faculty. Practical hours may be used also for interactive sessions, seminars and symposia.

Choice Based Credit System (CBCS) and Grade Point Average (GPA)

This MPH curriculum is competency based and follows CBCS and GPA for assessing and grading candidates. The CBCS provides flexibility and cafeteria type approach in which the students can select course of their choice from the prescribed courses (Core, Elective/minor and Concentrations. The total minimum credit points for MPH program shall be not less than 60 credits.

Credit: A unit by which the course work is measured.

Credit Hours: Credit hours or unit represent a mathematical summarization of all work completed, and are not the same as the actual classroom contact or instructional hours. One credit is equivalent to 15 hours of study. It could be 3 hours of per week of scheduled class/seminar time and 4 hours of student preparation time. Most of the courses are awarded 4 credit hours. Over an entire semester, it's nearly 60 hours of class time and 120 hours of student preparation.

Cumulative Grade Point Average (CGPA)

It's a measure of overall cumulative performance of a student in various courses in all semesters and the sum of the total credits of all courses in all semesters. It is expressed and rounded up to two decimal places.

Semester Grade Point Average (SGPA): It is a measure of performance of work done in a semester. It is ratio of total credit points secured by the student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

Letter Grades and Grade Points

Grade Point: It is a numerical weight allotted to each letter grade on a 4-point scale.

Letter Grade: It is an index of the performance of students in a said course. Grades are denoted by letters A, B, C, D, and F.

Percentage	Letter Grade	Grade Point
85% to 100%	A (Excellent)	4
70% to 84%	B (Very Good)	3
56% to 69%	C (Average)	2
50% to 55%	D (Pass)	1

Less than 50%	F (Fail)	0

For non credit courses 'Satisfactory' or 'Unsatisfactory' shall be indicated instead of the letter grade and this will not be counted for computation of SGPA/CGPA.

Academic Assessment

The assessment would be a continuous process throughout the semester; students must pass in all the assessment process. Equal importance shall be given to all the activities and assignments given in the institution. The academic assessment of student's performance comprises of three components .Weight and percentage allotted for components for each subject is listed below.

Component	Percentage allotted
Assignment/Projects	15%
Internal Assessment	25%
Final Semester Exams	60%
Total percentage for each subject	100%

Computation of SGPA and CGPA

The SGPA is the ratio of sum of product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all courses undergone by a student, i.e.

$$\mathbf{SGPA} = \sum(\mathbf{Ci} \times \mathbf{Gi}) / \sum \mathbf{Ci}$$

Where Ci is the number of credits of the ith course and Gi is the grade point scored by the student in the ith course.

The CGPA is also calculated in the same manner taking into account all the courses undergone by a student overall the semesters of the program, i.e.

$$\mathbf{CGPA} = \sum(\mathbf{Ci} \times \mathbf{Si}) / \sum \mathbf{Ci}$$

Where Si is the SGPA of the ith semester and Ci is total number of credits in that semester.

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcript.

Illustration of Computation of SGPA and CGPA

Example: Student "XYX". Semester 1

Subject	Assignment	Internal Assessment	Final Semester Exam	Total Marks
Subject 1	14	23	55	92
Subject 2	10	20	45	75
Subject 3	13	20	35	68
Subject 4	09	18	30	57

Subject 5	08	15	35	58

Illustration for SGPA

Subject	**Credit**	**Grade**	**Grade Point**	**Credit Point (Credit x Grade)**
Subject 1	4	A	4	16
Subject 2	4	B	3	12
Subject 3	4	C	2	8
Subject 4	4	D	1	4
Subject 5	4	D	1	4
Total	20			44

Thus, SGPA = 44/20 = 2.2

Illustation for CGPA

Semester 1	**Semester 2**	**Semester 3**	**Semester 4**
Credit: 20	Credit: 20	Credit: 20	NA
SGPA: 2.2	SGPA: 3	SGPA :4	NA

Thus, CGPA= (20 x 2.2 +20 x 3+ 20 x 4)/(20+20+20)= 3.0

Therefore as per calculation Student “XYX” CGPA is 3.0

Table – 8. Teaching hours and Credits allotted to each subject MPH

Year	**Sl. No**	**Subject**	**Number of**	
			Hours	**Credits**
Semester-1	1	Introduction to Public Health Practice	60	4
	2	Principles of Epidemiology	60	4
	3	Biostatistics	60	4
	4	Social and Behavioural Health	60	4
	5	Environment and Occupational Health	60	4
Semester-2	6	Health Systems Management and Program Planning	60	4
	7	Global Health and Diseases of Public Health Importance	60	4
	8	Research Methodology and Ethics in Public Health Practice	60	4
	9	Public Health Informatics	60	4

	10	Population Health (Maternal, Child Health and Family Welfare)	60	4
Semester-3	11	Public Health In Rural and Urban Areas	60	4

Year	Sl.	Subject	Number of
	12	Emergencies And Disaster Management	60	4
	13	Health Policy, Health Economics and Health Financing	60	4
	14	Public Health Leadership	60	4
	15	Public Health Nutrition	60	4
Semester-4	16	Public Health Project/Field Experience	600	NIL

Table – 9 Teaching hours and credit allotted to each subject MPH with Concentration in Biostatistics and Epidemiology.

			Hours	Credits
Semester-1	1	Introduction to Public Health Practice	60	4
	2	Principles of Epidemiology	60	4
	3	Biostatistics	60	4
	4	Social and Behavioural Health	60	4
	5	Environment and Occupational Health	60	4
Semester-2	6	Health Systems Management and Program Planning	60	4
	7	Global Health and Diseases of Public Health Importance	60	4
	8	Research Methodology and Ethics in Public Health Practice	60	4
	9	Public Health Informatics	60	4
	10	Population Health (Maternal, Child Health and Family Welfare)	60	4
Semester-3	11	Applied Epidemiology	60	4
	12	Applied Biostatistics and Data Analytics	60	4
	13	Optional subject from Electives (Table 2)	60	4
	14	Optional subject from Electives (Table 2)	60	4
	15	Optional subject from Electives (Table 2)	60	4
Semester-4	16	Public Health Project/Field Experience	600	NIL

Table – 10 Teaching hours and credit allotted to each subject MPH with Concentration in Public Health Informatics

Year	Sl. No	Subject	Number of	
			Hours	Credits
Semester 1	1	Introduction to Public Health Practice	60	4

	2	Principles of Epidemiology	60	4
	3	Biostatistics	60	4
	4	Social and Behavioural Health	60	4
	5	Environment and Occupational Health	60	4
Semester-2	6	Health Systems Management and Program Planning	60	4
	7	Global Health and Diseases of Public Health Importance	60	4
	8	Research Methodology and Ethics in Public Health Practice	60	4
	9	Public Health Informatics	60	4
	10	Population Health (Maternal, Child Health and Family Welfare)	60	4
Semester-3	11	Database Technologies , Data Warehousing and Data Mining	60	4
	12	Software Engineering, Project Development and Management	60	4
	13	Optional subject from Electives (Table 2)	60	4
	14	Optional subject from Electives (Table 2)	60	4
	15	Optional subject from Electives (Table 2)	60	4
Semester-4	16	Public Health Project/Field Experience	600	NIL

Table – 11 Teaching hours and Credits allotted to each subject MPH with Concentration in Environment and Occupational Health

Year	**Sl. No**	**Subject**	**Number of**	
			Hours	**Credits**
Semester-1	1	Introduction to Public Health Practice	60	4
	2	Principles of Epidemiology	60	4
	3	Biostatistics	60	4
	4	Social and Behavioural Health	60	4
	5	Environment and Occupational Health	60	4

Semester-2	6	Health Systems Management and Program Planning	60	4
	7	Global Health and Diseases of Public Health Importance	60	4
	8	Research Methodology and Ethics in Public Health Practice	60	4
	9	Public Health Informatics	60	4
	10	Population Health (Maternal, Child Health and Family Welfare)	60	4
Semester-3	11	Environment Health	60	4
	12	Occupational Health	60	4
	13	Optional subject from Electives (Table 2)	60	4
	14	Optional subject from Electives (Table 2)	60	4
	15	Optional subject from Electives (Table 2)	60	4
Semester-4	16	Public Health Project/Field Experience	600	NIL

Table – 12 Teaching hours and Credits allotted to each subject MPH with Concentration in Health Systems Management and Health Financing

Year	**Sl. No**	**Subject**	**Number of**	
			Hours	**Credits**
Semester-1	1	Introduction to Public Health Practice	60	4
	2	Principles of Epidemiology	60	4
	3	Biostatistics	60	4
	4	Social and Behavioural Health	60	4
	5	Environment and Occupational Health	60	4
Semester-2	6	Health Systems Management and Program Planning	60	4
	7	Global Health and Diseases of Public Health Importance	60	4

	8	Research Methodology and Ethics in Public Health Practice	60	4
	9	Public Health Informatics	60	4
	10	Population Health (Maternal, Child Health and Family Welfare)	60	4
Semester-3	11	Health Systems Management - 2	60	4
	12	Health Financing	60	4
	13	Optional subject from Electives (Table 2)	60	4
	14	Optional subject from Electives (Table 2)	60	4
	15	Optional subject from Electives (Table 2)	60	4
Semester-4	16	Public Health Project/Field Experience	600	NIL

Attendance

Every candidate shall have attended at least 80% of the total number of theory and field/practical training classes conducted from the date of commencement of the term to the last working day as notified by university in each of the subjects prescribed for that semester separately, in theory and field/practical training. Only such candidates are eligible to appear for the university examination in their first attempt. A candidate lacking the prescribed percentage of attendance in any subject either in theory or field/practical training in the first appearance will not be eligible to appear for the University Examination in that particular subject.

Monitoring Progress of Studies

Work Diary/Record Book- Every candidate shall attend symposia, seminars, conferences, journal review meetings and lectures during each semester as prescribed by the department and not absent him/herself from work without valid reasons. Every candidate shall maintain a work diary and record of his/her participation in the training programme. Special mention may be made of the presentations by the candidate as well as details of organization /practical training work conducted by the candidate. The work diary and record shall be scrutinized and certified by the concerned faculty members.

Project Work/Research and Field Experience or Internship

Each candidate pursuing MPH Course is required to carry out Project Work/ research and field experience or internship on a selected topic under the guidance of a recognized post graduate teacher after the submission of project proposal.

Project Work Research

The topic for the project work / Research should be chosen based on an area of interest and should be done in a reputed organization/community as described in the University guidelines. The student should choose the organization for the project work in any place where they could work under the constant guidance of the academic advisor and project supervisor/field supervisor allotted. The aim of the project /research is to enable the student to gain an in-depth insight into a particular field or topic chosen for study.

Project work /research guidelines

Every candidate who is interested in project work /research shall submit a project proposal/synopsis to the Registrar (Academic) of the University in the prescribed proforma, two hard copies of project proposal containing particulars of proposed project work within 6 months from the date of commencement of the course or on or before the date notified by the University. The project proposal shall be sent through proper channel.

The Project shall be written under the following headings:

- Introduction
- Aims or objectives of study
- Review of literature
- Materials and methods
- Results
- Discussion
- Conclusion
- Summary
- References
- Tables
- Annexure

The written text of Project shall not be less than 50 pages and shall not exceed 100 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. A declaration by the candidate that the work was done by him/her shall be included. The project supervisor, head of the department and head of the institution shall certify the bonafide of the Project.

Two copy of Project work/research shall be submitted to the institution along with a soft copy (CD). The project reports need not be submitted to the University, however, when ever university desires to verify, the same shall be verified from the copy stored at the Institution. The project/research work shall be assessed and certified by the guide. After completion of the project, the student has to defend his project/research work in front of Project/research committee formed by the institution. The committee members shall be senior faculties from the Institution and shall

be appointed as project or research committee members by the head of the institution. There shall be minimum of three members in the project or research committee. Acceptance and clearing of the project/research work is a pre-requisite for a candidate to be eligible to appear in the final examination. For a project to be accepted a minimum of two-third of the committee members should approve the project/research work done by the candidate. If the candidate does not get approval from two-third of the committee members, then the candidate shall do the course correction or re-work on the project as suggested by guide and the committee members.

Academic dishonesty

All students shall abide by the institutions rules and regulations. Academic dishonesty or misconduct falls into the following categories:

Plagiarism is presenting someone else's work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgement. All published and unpublished material, whether in manuscript, printed or electronic form, is covered under this definition. Plagiarism may be intentional or reckless, or unintentional. Under the regulations for examinations, intentional or reckless plagiarism is a disciplinary offence.

The words of others must be put in quotation marks and cited as one's source(s). One must also give citations when using others' ideas, even if those ideas are paraphrased in one's own words.

Cheating: which includes possessing unauthorized sources of information during examinations, copying an assignment, copying the work of others, permitting others to copy your work, submitting work done by others, completing assignments for others, altering work after grading and subsequently submitting it for re-grading, submitting the same work for two or more classes without the permission of all instructors involved, or retaining materials that you have been instructed to return to your instructor.

Fabrication: The falsification of data, information, or citations in any formal academic exercise.

Field Experience/Internship

All students have do a field experience/ practicum/ capstone project in any organization under the guidance of academic advisor and field supervisor.

Field experience/ internship is considered an important part of the academic curriculum, serving as a structured and significant educational experience that takes place in an agency, institution, or community in any developing or developed country, and under the supervision of Field Supervisors and the guidance of the student's Academic Advisor. The overall purpose of the field experience is to provide an opportunity for students to integrate theory and practice in a public health work environment. The student contributes to a community's resources and to the solution of public health problems while developing personal confidence and leadership skills as a public health professional. While in work students could synthesize, hone skills and competencies in program design,

implementation, management, and evaluation; research data collection, analysis, and reporting; and policy analyses and advocacy.

The field experience may include work in administrative, research, or clinical settings, or participation in ongoing health education, research, or program activities etc. The topics are individually selected and tailored to meet student needs. Decisions on the nature, location, objectives, and activities of the field experience are made through discussion and agreement among the student, academic advisor, and site/field supervisor.

The Site/Field Supervisor

The site/ field supervisor oversees the field experience at the chosen site. The site supervisor should have expertise in assigned project areas, experience and status within the organization, and an interest and competence in supervising and mentoring. The site supervisor also helps the student develop the MPH field experience activities (along with the Academic Advisor), and reviews and signs the Learning Contract prior to the field placement. Finally, the site supervisor writes a final evaluation of the field experience.

Academic Advisor (AA)

The Academic Advisor would be one of the internal faculties from the institute or any faculty designated by the institute who is eligible to be the project guide. The AA advises and assists the student with the field experience site selection. Identifies and focuses coursework to prepare for the field experience, Academic advisor would review and approve the student's Field Experience Plan, communicates with Field Experience Supervisor, reviews the required student reports, student logbook and evaluations.

Student Field Experience Plan

Students pursuing a Field Experience (FE) are required to complete a FE Plan in collaboration with their Academic Advisor and Field Supervisor. The plan includes a goal, learning objectives, specific strategies and activities for accomplishing those goals, timeline for completing goals, and any other considerations that may impact their field experience, and methods of evaluating goal accomplishment (the deliverables). It is important that the student's objectives, strategies, and evaluation methods are realistic, appropriate, meaningful, and measurable. Details of the student's plan are developed and agreed to jointly by the student, field supervisor, and Academic Advisor. It represents the three-way agreement that is integral to the field experience.

Revisions of Plan While in the Field

The FE Plan can be revisited and revised. Revisions to the initial FE Plan should be agreed to and submitted to the Academic Advisor and FE supervisor no later than the end of the second week of the placement. The students who fail to register their FE plan will have to work on the initial plan that was agreed. If the FE moves in a different direction, the FE Plan can still be valid but the student must document any revisions, the reasons for the revisions and the results. If the student is unsure about progress,

he/she needs to talk with the Field Supervisor and Academic Advisor. Everyone on the team shares a common goal—to help the student have a successful learning experience.

Report

Students will have to maintain a log book, and submit a report based on their experience.

For other details look at the field experience section at the section II syllabus and contents

Minimum requirement for Institutions to offer MPH course

MPH course shall be offered only by a separate public health college that has been registered and recognized by Government of Karnataka, not by any department of other colleges.

There shall be a separate principal and teaching staff for the said college.

Infrastructure required

1. Principal room -1
2. Staff room-1
3. Office room-1
4. Class rooms Minimum -3
5. Library /Central Library-1
6. Students lounge -1

Teaching Faculty

Qualification and Experience required for appointment as teachers on full time basis for MPH course

For intake of 10 students

Minimum of Two (2) full time faculties are required, among whom one should be the Principal. The second faculty should be at least at the level of assistant professor.

For intake of 10 to 30 students

Minimum of Four (4) full time faculties are required, among whom one should be the Principal

The second faculty should be at least at the level of assistant professor.

The third and fourth should be at least at the level of lecturer.

Table 13. Teaching Qualification

Sl No	Staff Description	Minimum Qualification
1	Principal	MPH/MD community medicine with a minimum of 7 years of work or teaching experience. Or PhD in relevant subject with 5 years of work or teaching experience. **(Note: A professor is eligible to become a principal)**
2	Professor	MPH/MD community medicine with minimum of 7 years of work or teaching experience. **Or** PhD in relevant subject with 5 years of work or teaching experience.

3	Associate professor	MPH/MD community medicine with minimum of 4 years of work or teaching experience. **Or** PhD in relevant subject.
4	Assistant Professor	MPH/MD community medicine with minimum of 2 years of work experience among which at least one year should be of teaching experience.
5	Lecturer:	MPH/MD community medicine

Note: For specialized subjects faculty with minimum of Masters Degree in area of specialization can teach the subjects such as biostatistics, epidemiology, public health nutrition, health informatics, demography etc

Project Supervisor/Academic Advisors

Qualified teaching staff of minimum of associate professor level shall be eligible to be a Project Supervisor/Academic Advisors or anyone designated by the institute.

Change of Project Supervisor/Academic Advisors
The event of project supervisor/Academic Advisors leaving the Institute/ college due to any reason or in the event of death of the guide or any other valid reasons, project supervisor/academic advisors may be changed and same shall be intimated to respective students and the project/research committee.

Scheme of Examinations

The University conducts two examinations in a year at an interval of not less than four to six months.

Internal Assessment

Theory: 25 marks per subject

Institutions running the course shall conduct two tests for each subject in each year for Internal Assessment. The second test shall be conducted one month prior to the university examination so that it also serves as preparatory examination. Average of the marks obtained in the two tests shall be computed for internal assessment and shall be sent to the university as per the notification issued by Registrar (Evaluation) before each university examination.

Organization / Practical training: 15 marks are allotted for assignment during each departmental posting and every candidate shall prepare a brief report on the assignment which forms part of the records.

Records and marks obtained in tests will be maintained by the college and made available to the university. Marks of periodic tests shall be displayed on the notice board by the Principals without fail.

If a candidate is absent from a test due to genuine and satisfactory reason, such a candidate may be given a re-test within a fortnight.

Year	Main Subjects	Assign ments	IA Marks	Final Exam	Total
Semester-1	Introduction to Public Health Practice	15	25	60	100
	Principles of Epidemiology	15	25	60	100
	Biostatistics	15	25	60	100
	Social and Behavioural Health	15	25	60	100
	Environment and Occupational Health	15	25	60	100
Semester-2	Health Systems Management and Program Planning	15	25	60	100
	Global Health and Diseases of Public Health Importance	15	25	60	100
	Research Methodology and Ethics in Public Health Practice	15	25	60	100
	Public Health Informatics	15	25	60	100
	Population Health (Maternal, Child Health and Family Welfare)	15	25	60	100
Semester-3	Public Health In Rural and Urban Areas	15	25	60	100
	Emergencies And Disaster Management	15	25	60	100
	Health Policy, Health Economics and Health Financing	15	25	60	100

	Public Health Leadership	15	25	60	100
	Public Health Nutrition	15	25	60	100
Semester-4	Field experience/Internship		NIL		

Table- 14 . Distribution of marks for Academic Assessment for MPH

Table- 15 Distribution of marks for Academic Assessment MPH with Concentration in Biostatistics and Epidemiology.

Year	Main Subjects	Assign ments	IA Marks	Final Exam	Total
Semester-1	Introduction to Public Health Practice	15	25	60	100
	Principles of Epidemiology	15	25	60	100
	Biostatistics	15	25	60	100
	Social and Behavioural Health	15	25	60	100
	Environment and Occupational Health	15	25	60	100
Semester-2	Health Systems Management and Program Planning	15	25	60	100
	Global Health and Diseases of Public Health Importance	15	25	60	100
	Research Methodology and Ethics in Public Health Practice	15	25	60	100
	Public Health Informatics	15	25	60	100
	Population Health (Maternal, Child Health and Family Welfare)	15	25	60	100
Semester-3	Applied Epidemiology	15	25	60	100
	Applied Biostatistics and Data Analytics	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100

	Optional subject from Electives (Table 2)	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100
Semester-4	Field experience/Internship		NIL		

Table- 16 Distribution of marks for Academic Assessment MPH with Concentration in Public Health Informatics

Year	Main Subjects	Assign ments	IA Marks	Final Exam	Total
Semester-1	Introduction to Public Health Practice	15	25	60	100
	Principles of Epidemiology	15	25	60	100
	Biostatistics	15	25	60	100
	Social and Behavioural Health	15	25	60	100
	Environment and Occupational Health	15	25	60	100
Semester-2	Health Systems Management and Program Planning	15	25	60	100
	Global Health and Diseases of Public Health Importance	15	25	60	100
	Research Methodology and Ethics in Public Health Practice	15	25	60	100
	Public Health Informatics	15	25	60	100
	Population Health (Maternal, Child Health and Family Welfare)	15	25	60	100
Semester-3	Database Technologies , Data Warehousing and Data Mining	15	25	60	100
	Software Engineering, Project Development and Management	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100

Semester-4	Field experience/Internship		NIL		

Table- 17 Distribution of marks for Academic Assessment MPH with Concentration in Environment and Occupational Health

Year	Main Subjects	Assign ments	IA Marks	Final Exam	Total
Semester-1	Introduction to Public Health Practice	15	25	60	100
	Principles of Epidemiology	15	25	60	100
	Biostatistics	15	25	60	100
	Social and Behavioural Health	15	25	60	100
	Environment and Occupational Health	15	25	60	100
Semester-2	Health Systems Management and Program Planning	15	25	60	100
	Global health and Diseases of Public Health Importance	15	25	60	100
	Research Methodology and Ethics in Public Health Practice	15	25	60	100
	Public Health Informatics	15	25	60	100
	Population Health (Maternal, Child Health and Family Welfare)	15	25	60	100
Semester-3	Environment Health	15	25	60	100
	Occupational Health	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100

Semester-4	Field experience/Internship		NIL		

Table- 18 Distribution of marks for Academic Assessment MPH with Concentration in Health Systems Management and Health Financing

Year	Main Subjects	Assign ments	IA Marks	Final Exam	Total
Semester-1	Introduction to Public Health Practice	15	25	60	100
	Principles of Epidemiology	15	25	60	100
	Biostatistics	15	25	60	100
	Social and Behavioural Health	15	25	60	100
	Environment and Occupational Health	15	25	60	100
Semester-2	Health Systems Management and Program Planning	15	25	60	100
	Global health and Diseases of Public Health Importance	15	25	60	100
	Research Methodology and Ethics in Public Health Practice	15	25	60	100
	Public Health Informatics	15	25	60	100
	Population Health (Maternal, Child Health and Family Welfare)	15	25	60	100
Semester-3	Health Systems Management 2	15	25	60	100
	Health Financing	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100
	Optional subject from Electives (Table 2)	15	25	60	100

Semester-4	Field experience/Internship		NIL		

To be eligible to appear for the university examination the student should get minimum 50% marks in internal assessment in each subject. Internal assessment, Assignment marks shall be added to the final marks awarded by the University and students has get 50% in aggregate.

University examination

i. University conducts two examinations in a year at an interval of not less than five to six months.
ii. Number of examiners for theory and viva voce shall be two, comprising of one internal and one external examiner appointed by the university.
iii. Qualification and teaching experience required for appointment as an examiner for viva shall be the same as that of Professor or Associate Professor.
iv. Theory papers will be evaluated by subject experts (minimum assistant professor level) who are on the approved panel of examiners in RGUHS or shall be registered for the academic session.

Eligibility to appear in university examination: A candidate shall be eligible to appear for first university examination at the end of six months from the commencement of the course and for subsequent year university examination at an interval of six months provided he/she has satisfactorily completed the prescribed course and fulfilled the prescribed attendance at the end of each semester.

Theory (Written) examination: Theory examination in first to third semester shall consist of five theory papers each of three hours duration. Each paper shall carry 100 marks (60% of the marks obtained shall be added to final grade calculation).

The question paper pattern shall be as follows: Long essays – 3 questions of 10 marks each and Short essay – 10 questions of 5 marks each and 10 objective type questions (MCQs, one word, true or false or one sentence) of 2 marks each.

Viva- voce: This shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. A detailed viva voce examination comprising of syllabi of both years and discussion on the project work shall be conducted after the second year theory examinations by a panel of two university appointed examiners, of whom one will be internal and the other external examiner. Marks allotted for viva-voce shall be 100 marks (50 internals + 50 external).

The particulars of subjects for University examination and distribution of marks are shown in the Table –

Table- 19 Subject wise Distribution of Marks for Theory Examinations and field experience

Semester	Number of Theory papers	Subjects	Marks		Total Marks
			Theory	Viva	
First	Paper I	Introduction to Public Health Practice	100	NIL	500
	Paper II	Principles of Epidemiology	100	NIL	
	Paper III	Biostatistics	100	NIL	
	Paper IV	Social and Behavioural Health	100	NIL	
	Paper V	Environment and Occupational Health	100	NIL	
Second	Paper I	Health Systems Management and Program Planning	100	NIL	500
	Paper II	Global Health and Diseases of Public Health Importance	100	NIL	
	Paper III	Research Methodology and Ethics in Public Health Practice	100	NIL	
	Paper IV	Public Health Informatics	100	NIL	
	Paper V	Population Health(Maternal, Child Health and Family Welfare)	100	NIL	
Third	Paper I	Public Health in Rural and Urban Areas	100	NIL	500
	Paper II	Emergencies and Disaster Management	100	NIL	
	Paper III	Health Policy, Health Economics and Health Financing	100	NIL	
	Paper IV	Public Health Leadership	100	NIL	
	Paper V	Public Health Nutrition	100	NIL	
Fourth		Public health project/field experience	NIL	NIL	NIL
		Viva Voce		100	100
GRAND TOTAL			**1500**	**100**	**1600**

Table- 20 Subject wise Distribution of Marks for Theory Examinations and field experience (Concentration in Biostatistics and Epidemiology)

Semester	Number of	Subjects		Total Marks

	Theory papers		Marks		
			Theory	Viva	
First	Paper I	Introduction to Public Health Practice	100	NIL	500
	Paper II	Principles of Epidemiology	100	NIL	
	Paper III	Biostatistics	100	NIL	
	Paper IV	Social and Behavioural Health	100	NIL	
	Paper V	Environment and Occupational Health	100	NIL	
Second	Paper I	Health Systems Management and Program Planning	100	NIL	500
	Paper II	Global Health and Diseases of Public Health Importance	100	NIL	
	Paper III	Research Methodology and Ethics in Public Health Practice	100	NIL	
	Paper IV	Public Health Informatics	100	NIL	
	Paper V	Population Health (Maternal, Child Health and Family Welfare)	100	NIL	
Third	Paper I	Applied Epidemiology	100	NIL	500
	Paper II	Applied Biostatistics and Data Analytics	100	NIL	
	Paper III	Optional subject from Electives (Table 2)	100	NIL	
	Paper IV	Optional subject from Electives (Table 2)	100	NIL	
	Paper V	Optional subject from Electives (Table 2)	100	NIL	
Fourth		Public health project/field experience	NIL	NIL	NIL
		Viva Voce		100	100
GRAND TOTAL			**1500**	**100**	**1600**

Table- 21 Subject wise Distribution of Marks for Theory Examinations and field experience (Concentration in Public Health Informatics)

Semester	Number of Theory papers	Subjects	Marks		Total Marks
			Theory	Viva	
First	Paper I	Introduction to Public Health Practice	100	NIL	500

	Paper II	Principles of Epidemiology	100	NIL	
	Paper III	Biostatistics	100	NIL	
	Paper IV	Social and Behavioural Health	100	NIL	
	Paper V	Environment and Occupational Health	100	NIL	
Second	Paper I	Health Systems Management and Program Planning	100	NIL	500
	Paper II	Global Health and Diseases of Public Health Importance	100	NIL	
	Paper III	Research Methodology and Ethics in Public Health Practice	100	NIL	
	Paper IV	Public Health Informatics	100	NIL	
	Paper V	Population Health (Maternal, Child Health and Family Welfare)	100	NIL	
Third	Paper I	Database Technologies , Data Warehousing and Data Mining	100	NIL	500
	Paper II	Software Engineering, Project Development and Management	100	NIL	
	Paper III	Optional subject from Electives (Table 2)	100	NIL	
	Paper IV	Optional subject from Electives (Table 2)	100	NIL	
	Paper V	Optional subject from Electives (Table 2)	100	NIL	
Fourth		Public health project/field experience	NIL	NIL	NIL
		Viva Voce		100	100
GRAND TOTAL			**1500**	**100**	**1600**

Table- 22 Subject wise Distribution of Marks for Theory Examinations and field experience, (Concentration in Environment and Occupational Health)

Semester	**Number of Theory papers**	**Subjects**	**Marks**		**Total Marks**
			Theory	**Viva**	
First	Paper I	Introduction to Public Health Practice	100	NIL	500
	Paper II	Principles of Epidemiology	100	NIL	
	Paper III	Biostatistics	100	NIL	
	Paper IV	Social and Behavioural Health	100	NIL	
	Paper V	Environment and Occupational Health	100	NIL	

Second	Paper I	Health Systems Management and Program Planning	100	NIL	500
	Paper II	Global Health and Diseases of Public Health Importance	100	NIL	
	Paper III	Research Methodology and Ethics in Public Health Practice	100	NIL	
	Paper IV	Public Health Informatics	100	NIL	
	Paper V	Population Health (Maternal, Child Health and Family Welfare)	100	NIL	
Third	Paper I	Environment Health	100	NIL	500
	Paper II	Occupational Health	100	NIL	
	Paper III	Optional subject from Electives (Table 2)	100	NIL	
	Paper IV	Optional subject from Electives (Table 2)	100	NIL	
	Paper V	Optional subject from Electives (Table 2)	100	NIL	
Fourth		Public health project/field experience	NIL	NIL	NIL
		Viva Voce		100	100
GRAND TOTAL			**1500**	**100**	**1600**

Table- 23 Subject wise Distribution of Marks for Theory Examinations and field experience (Concentration in Health Systems Management and Health Financing)

Semester	**Number of Theory papers**	**Subjects**	**Marks**		**Total Marks**
			Theory	**Viva**	
First	Paper I	Introduction to Public Health Practice	100	NIL	500
	Paper II	Principles of Epidemiology	100	NIL	
	Paper III	Biostatistics	100	NIL	
	Paper IV	Social and Behavioural Health	100	NIL	
	Paper V	Environment and Occupational Health	100	NIL	
Second	Paper I	Health Systems Management and Program Planning	100	NIL	500
	Paper II	Global Health and Diseases of Public Health Importance	100	NIL	
	Paper III	Research Methodology and Ethics in Public Health Practice	100	NIL	

	Paper IV	Public Health Informatics	100	NIL	
	Paper V	Population Health (Maternal, Child Health and Family Welfare)	100	NIL	
Third	Paper I	Health Systems Management -2	100	NIL	500
	Paper II	Health Financing	100	NIL	
	Paper III	Optional subject from Electives (Table 2)	100	NIL	
	Paper IV	Optional subject from Electives (Table 2)	100	NIL	
	Paper V	Optional subject from Electives (Table 2)	100	NIL	
Fourth		Public health project/field experience	NIL	NIL	NIL
		Viva Voce		100	100
GRAND TOTAL			**1500**	**100**	**1600**

Declaration of pass

For I to IV semester a candidate shall secure a minimum of 50% marks in university examination and internal assessment in aggregate added together to be declared as pass. In case of IV semester a candidate shall secure a minimum of 50% marks in each paper and 50% of marks in viva voce to be declared as pass. A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in subsequent examination after paying fresh fee to the university.

Class/ Rank shall be declared for the examinations on the basis of aggregate marks secured by a candidate at each of these examinations.

- A successful candidate obtaining 75% and more marks of the grand total aggregate in the first attempt shall be declared to have passed these subjects in distinction.
- A successful candidate obtaining 60% and more and less than 75% of the marks of the grand total aggregate in the first attempt shall be declared to have passed these subjects in first class.
- A successful candidate obtaining 50% and more and less than 60% of the marks of the grand total aggregate in the first attempt shall be declared to have passed these subjects in second class.
- A candidate who passes an examination in more than one attempt shall be placed in Pass Class irrespective of the percentage of marks secured.

Carry over

A candidate who has appeared in all subjects of a semester in the university examination is eligible to go to the next semester provided he/she has passed in minimum three subjects in the current semester.

Candidates can carryover only two subjects from any of the semester at a time. It is to be noted that, in the event of candidates completing the final semester successfully but has backlog of previous semesters in such cases the marks card for the final semester will not be issued till such time the candidates clears all the backlog subjects successfully

However a candidate has to clear all subjects to be eligible to receive the degree.

Number of attempts

A candidate is permitted not more than four attempts (actual appearance) to pass each examination.

A candidate will not be allowed to continue the course if he/she fails to comply with the above stipulation.

However the candidate can take readmission as a fresh candidate

Maximum duration for completion of course: A candidate shall complete the course within six years from date of admission failing which the candidate will be discharged.

Eligibility for award of degree
A candidate shall have passed in all the subjects of first and second year (All four semesters) to be eligible for award of degree

SECTION II

The Focus

The MPH program is designed to meet the demand of professionally competent public health graduates in organizations associated with health, and development. The course imparts specialized skills and promotes conceptual and analytical, understanding of management within the unique circumstances prevailing in the health system globally.

To attain knowledge and practical skills on the subjects of the syllabus as well as to attain a firsthand familiarity of the present health scenario, the curriculum provides ample opportunities by concurrent and supervised internship. Most significant aspect of this method of training is that the scholars will enjoy adequate professional development and thereby equip themselves with modern techniques in the area of specialization.

The training enables the MPH graduates to assume middle level and senior level managerial, leadership and teaching responsibilities in a wide range of organizations and areas, for instance:

- Hospital with community projects
- Voluntary agencies involved in health and development
- International organization and assist/sponsored projects and programs in health and development
- Industrial concerns maintaining community health projects
- In colleges and schools as life style education/Health education, lecturers/Teachers/Experts
- In the central state health systems as a Health educators/Media officers/Technical officers etc.

Syllabus and Contents

Semester 1 Core Subjects

Introduction to Public Health Practice

Course Description
This course provides the students with broad overview of public health practice and its various activities. It introduces various areas of public health system, functions, measuring illness, diseases, health, prevention and control.

Objectives

At the conclusion of the course, the student will be able to:

- List and describe the vision, mission, functions and essential services of public health
- Discuss the development in the field of public health
- Understand health disparities
- Identify factors that influence health and determine ways in which health status is measured
- Identify public health's core functions and discuss how these are translated into practice

Contents

- **Introduction to public health**
- **What is Public Health?**
  - Definition of public health
  - Public health as a system
  - Scope of public health
  - History and development of public health in developed countries
  - History and development of public health in low and middle income countries.
  - Development of public health in countries in economic transition: India, Brazil, China.
  - Unique features of public health
  - Impact of public health in global society

- **Function of Public Health**
  - Core functions of public health practice
  - Public health v/s medical care
- **Concept of Health, Illness, Diseases**
  - Health, Illness, Disease
  - Determinants of health
  - Dimensions of health
  - Concepts of health,
  - Concepts of diseases
  - Spectrum of health and iceberg phenomenon
  - Natural history of disease
- **Measures of Health**
  - Health indicators

- Assessing the health needs-Priorities, Health status assessment, Health needs assessment, Health impact assessment, Analyzing health problems for the causative factors (risk factors).
- Economic dimensions of health impact

- **Health Inequalities**
  - Health inequalities
  - Socio-economic inequalities in health in high and low income countries.
  - Reducing health inequalities
- **Prevention and Control**
  - Concept of prevention and control
  - Levels of prevention
  - Modes of intervention
  - Prevention of communicable and non communicable diseases.
  - Prevention and control of public health hazards- Tobacco, drug abuse, injury prevention and violence
- **Public Health Resources**
  - Infrastructure
  - Public health standards
  - Human resources
  - Organizational resources
  - Financial resources
  - Informational resources

- **Public Health System**
  - Public Health system - Sub center, PHC, CHC, rural hospitals, district hospitals , and tertiary care hospitals
  - Organization of Public health system (Example Government systems in UK, USA, Germany, India, UAE)
  - Private health sector, Indigenous system of medicine, Non Governmental Organization/Voluntary Organization
  - Health programs- Communicable diseases programs, Non communicable diseases programs, Nutritional related health programs
  - International public health institutions-WHO,ILO , World bank, FAO,CDC,UNFPA,UNICEF,UNESCO, United Nations

Practicum

- Visit to various NGOs,

- Public health centre visit

Reference

- Public health: What it is and how it works, - Burnord J, Turnock, Jones and Bartlet Publishers
- Oxford Textbook of Public Health 5th edition ,by Detels, Roger; Beaglehole, Robert; Lansang, Mary Ann; Gulliford, Martin Oxford University Press (OUP)
- Oxford Handbook of Public Health Practice (Oxford Handbooks Series) by David Pencheon, David Melzer, Muir Gray and Charles Guest (2006)
- Park's Textbook of Preventive and social Medicine, - K.Park, Banarsidas Bhanot (publishers)
- Introduction to Public Health by Mary-Jane Schneider
- Web resources

Semester 1 Core Subject

Principles of Epidemiology

Course description

This course introduces the students to epidemiological concepts and methods used to evaluate the distribution and determinants of health and disease in population.

Objectives
At the conclusion of the course, the student will be able to:

- Understand basic principles and methods of epidemiology.
- Discuss and develop population based perspectives to examine health related events and disease.
- Discuss the history of epidemiology and appreciate its contribution to public health.
- Describe basic principles and methodology of various epidemiologic study designs such as observational and experimental studies.
- Design and interpret various epidemiological studies as well as develop hypothesis for risk factors, and disease outcome.
- Calculate and measure health status, disease burden, measures of associations and other epidemiological calculations.
- Understand the importance of bias, confounding, effect modification, validity and reliability in epidemiological studies.
- Learn the basic concepts of surveillance, screening and outbreak investigations.

- Critically review published epidemiological studies.
- Discuss the ethical issues in epidemiological research and also evaluate the health programs epidemiologically

Contents

- **Introduction to epidemiology**
    - Definition, importance, scope, and objectives of epidemiology
    - Application of epidemiology
    - Epidemiology and clinical practice
- **History and evolution of epidemiology**
    - Origin of epidemiology
    - Epidemiologic approach
    - Early pioneers of epidemiology
- **Dynamics of disease and health**
    - Concept of disease and health
    - Natural history of disease.
    - Modes of transmission
    - Levels of prevention
    - Epidemic, Endemic, Pandemic
    - Immunity – active, passive and herd immunity
    - **Measures of Morbidity and Mortality**
    - **Measures of Morbidity:**
        - Incidence: cumulative incidence, incidence density.
        - Prevalence: point prevalence, period prevalence
        - Relationship of incidence and prevalence.
        - Disease burden : Quality of life, survival rate, life table, YPLL,DALYs
    - **Measures of Mortality:**
        - Mortality rates, Crude rate (Birth and death)
        - Fertility rates, case fatality rates,
        - Cause specific mortality rates,
        - Proportion mortality rate,
        - Infant mortality rates,
        - Maternal mortality rates,
        - Neonatal mortality rates
        - Other mortality rates
- **Comparing rates in epidemiology**
    - Adjusted rates – PMR,SMR
    - Measures of association,
    - Relative risk, odds ratio
    - Attributable risk,
    - Population attributable risk.
- **Association and Causation**
    - Association,
    - Types of association
    - Casual association

- Types of causes
- Rothmans casual relationship/inference

- **Bias ,Confounding ,Chance**
  - Bias, types of bias, confounding, effect modification
- **Screening of Disease**
  - Screening
  - Types of Screening
  - Accuracy of Screening Tests,
  - Validity,
  - Reliability,
  - Precision
- **Public Health Surveillance**
  - Surveillance and its types.
- **Epidemiological studies**
  - Observational studies
  - Descriptive studies
  - Case report, Case series
  - Analytical studies
    a. Ecological studies
    b. Cross Sectional studies
    c. Case-Control studies
    d. Cohort studies
    e. Hybrid studies
  - Experimental studies:
    a. Randomized Control Trials
    b. Community Trials
- **Applications in epidemiology**
  - Investigation of an outbreak
  - Designing experimental studies
  - Surveys
- **Epidemiology and evaluation**
  - Using epidemiology to evaluate health services.
  - Epidemiologic approach to evaluate screening
  - Epidemiology and public policy
  - Ethical and professional issues in epidemiology

Practicum

- Tools in epidemiology(only practical)
  - Investigation of epidemic
  - Designing epidemiologic study
  - Survey and field visits

Reference

- Epidemiology by Leon Gordis
- Essential Epidemiology: Principles and Applications , by Oleckno, William, Waveland Press, Inc., 2002
- Essentials of Epidemiology in Public Health, by Ann Aschengrau, Jones and Bartlett Publishers
- Epidemiology: An introduction by Kenneth.J.Rothman
- Applied Epidemiology: Theory to Practice, by Ross C. Brownson, Diana B. Petitti
- Epidemiology For Public Health Practice , by Robert H. Friis and Thomas Sellers
- Basic Epidemiology, By R.Bonita, R Beaglehole, T.Kjellstrom
- K.Parks's Textbook of Preventive and social medicine M/S Banarasidas Bhanot publishers
- Epidemiology: Beyond the Basics, by Moyses Szklo and Javier Nieto

Semester 1 Core Subject

Biostatistics

Course Description

This course provides students with basic statistical concepts and techniques that are used in public health.

Objectives
At the conclusion of the course, the student will be able to:

- Understand and apply the basic concepts of probability, random variation and commonly used statistical probability distributions
- Apply statistical knowledge to designing research studies.
- Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.

Contents

- **Introduction**
  - Meaning of Statistics
  - Statistical methodology
  - Branches of Statistics- Bio-Statistics, Vital Statistics, Health Statistics
  - Application of Statistical Methodologies in Public Health Management
- **Data**
  - Meaning and Types of data,
  - Different scales of data measurement
  - Different methods of data collection,
  - Merits and demerits of data collection methods under different situations
  - Tabulation of data
  - Classification of morbidity, mortality and socio-economic data
  - Graphical presentation of data
- **Measures of central tendency**
  - Calculation of Measures of Central tendency- ungrouped and grouped data
  - Mean, Median and Mode
- Understanding variability of data through measures of Variability
  - Calculation and interpretation of Range, Percentiles, Quartiles, Standard deviation and Co-efficient of variation- both ungrouped and grouped data

- **Sample survey techniques**-
  - Types of surveys
  - Role of surveys in Public health management,
  - Planning of surveys,
  - Concept of sampling,

    - Use of random number tables for selection of samples,
    - Different Sampling designs,
    - Calculation of sample size for field surveys
- **Probability**
    - Concept of probability,
    - Probability distributions and their applications in public health management
    - Normal distribution,
    - Binomial distribution,
    - Poisson distribution
- **Testing of hypothesis**
    - Concept of Sampling variation
    - Tests of significance-
    - Z-test,
    - t-tests,
    - Chi square test and
    - Important Non-parametric tests
- Pearsonian Correlation and Regression as prediction techniques
- Introduction to Multivariate Correlation and Regression, Logistic Regression, Odds ratio and their applications in Public Health
- Life table technique and Survival analysis
- Introduction to Planning of Research studies

Practicum
Hands on experience on statistical software.

Reference

- Applied statistics in health sciences, by Rao NSN, JP publishers
- Methods of biostatistics, by Mahajan B.K, Kothari book depot, A.D Marg, Bombay
- A text book of statistics by Potti L.R, Yamuna publications, Sreekanteshwaram, Trivandrum.
- Introduction to Medical Statistics, by Lancaster H.O, Johnwiley and sons, New York.
- Biostatistics, by Leius A.E , Reinhold publishing Co, New York.
- Statistics in medicine, by Cotton T, Little Brown and Co, Boston.
- Principles of medical statistics, by Hill A.B,Oxford University press, New York.

Semester 1 Core Subject

Social and Behavioural Health

Course Description

This course provides students with a foundation in behavioural and social sciences theory, research and interventions pertaining to public health. Course will provide exposure to broad range of theories including the theoretical foundations of social sciences and its applications. These theories will be discussed using examples of their applications to numerous public health problems such as HIV/AIDS, violence, cancer, cardiovascular diseases etc. It also helps to understand the health related behaviours, design and development of interventions to prevent, reduce and eliminate major public health problems.

Course Objectives:

At the conclusion of the course, the student will be able to:

- To identify, critically review and apply a range of behavioral and social sciences, concepts, theories and models in public health practice.
- To identify and analyze the social, cultural and behavioral factors associated with health, illness, disease and risk behaviors of individuals as well as populations
- To design and adopt public health programs using behavioral and social science theories and models.

- To identify, discuss social and behavioral factors that influence health seeking behavior and health disparities

Contents

- **Introduction to social and behavioral health**
    - Health, illness, behavior
    - Health behavior, illness behavior, sick role behavior, health literacy
    - Risk factors
    - Determinants of health
    - Theory, concepts, constructs, variables.
    - Models
  - Importance of studying social and behavioral factors in public health.
  - Historical perspectives of population and disease. Changing the context of health and behavior

  - **Social epidemiology**
    - Causality Continuum model
    - Global diseases pattern –social factors
    - Social ecology of inequality
    - Social Ecological Web
- **Theoretical foundation:**
    - Behavioral and social science theory
    - Models for individual health behaviors.
      - Health Belief Model
      - Transtheoretical Model
      - Theory of Planned Behavior
      - Theory of Reasoned Action
      - The Integrated Behavioral Model
      - Precaution Adoption Process Model
    - Models of interpersonal health behavior
      - Social cognitive theory
      - Social network and social support theory
    - Community level models
      - Community organization and participatory model.
      - Diffusion of innovation theory
      - Theory of organizational change
- **Social Environment and Socio Cultural Context of Health**.
    - Social environment and health
    - Social reactions to disease.
    - Comparative health cultures.
    - Health disparities, diversity and cultural competencies.
    - Urbanization, industrialization, modernization.
    - Social control and deviance.
- **Interventions, methods and practices**:

- Planning health promotion and disease prevention programs.
    - Program planning and intervention development: PRECEDE and PROCEDE model
    - Community health planning-MAPP
    - Program evaluation
- **Community based approaches to health promotion.**
    - Community, Key features of community based intervention
    - Community assessment and community based participatory research approach
    - Types of community based approaches. DATCH
    - Advantages and challenges of community based interventions.
    - Social marketing in public health
    - Approaches to policy and advocacy.
- **Anthropological understanding of public health problems**:
    - Introduction to medical anthropology and application
    - Medical pluralism : Traditional and alternative systems
    - Health seeking behavior

Health Promotion

- **Developing health promotion program**
    - Overview of health promotion : Ottawa Charter and Jakarta declaration
    - Needs assessment
    - Program development and Program evaluation

Practicum:

- Visit to NGOs working in specific areas to learn the applied aspects of social theories.
- Designing programmes based on behavioural change etc
- Developing models for social pathology (Social problems –Stigma, discrimination, caste, race, crime, slums, child abuse, beggary, prostitution, drug abuse, eating disorders, alcoholisms, substance abuse,, human trafficking, poverty) and disease prevention and promotion.

Reference

- Social and Behavioral Foundation of Public Health by Jeannine Carolie Second edition, SAGE.
- Essential readings in health behavior, theory and practice by mark Edberg Jones and Bartlett
- Health behavior and health education. Theory research and practice by Karen Glanz, Barbera , Rimes, K Vishvath, Wileef Publications
- Health and behavior –The interplay of biological, behavioral and social references. Institute of medicine, national academic press.
- Essentials of health behavior: Social and behavioural theory in public health by Mark Edberg (Jones and Bartlett publishers

- Foster and Anderson: Medical Anthropology, Wiley, New York
- Health Education and Health Promotion by, M.A.Koelen and A.W.Vandin Ban.
- The New World of Health Promotion by, Bernard J Healey
- Related web resources

Semester 1 Core Subject

Environmental and Occupational Health

Course Description

This course will provide students a broad introduction to the scientific basis of environmental and occupational health from a public health perspective. The course intends to address the issues in environmental and occupational health, using tools, concepts and methods used in environmental health. Students on completion will be able develop skills on critical analysis of current environmental and occupational health problems.

Objectives at the conclusion of the course, the student will be able to:

- Learn the basic concepts of environmental health sciences and key environmental health issues.
- Understand the risk assessment concepts, uses, describe, asses, control and make decision about the environmental health issues.
- Develop skills in analyzing, managing the community and environmental health issues.
- Identify some of the major environmental health hazard.
- Understand and describe occupational hazards, and diseases related to workplace and its prevention

Contents

- **Introduction of environmental health**
    - Basics of environmental health
    - Principles of environmental health
    - Significance of environment for human health
    - Climate
    - Ecosystem and Biomes
    - Energy flow, energy sources, consumption types.
    - Trophic levels.
    - Nutrients recycling (carbon, nitrogen and phosphorus)
- **Environmental degradation**
    - Decline of eco systems.
    - Global climate change
    - Loss of biodiversity and Impact on environment
    - Deforestation
    - Rain forests
    - Soil degradations and Soil erosion
    - Green house effect, Green house gases
    - Role of chemicals and fertilizers on health
    - Desertification
    - Wetlands
    - Green revolution
    - Food security
- **Water and waste water**
    - Water and it properties
    - Hydrological cycle
    - Resource of water

- Water and health
- Water shortage and scarcities
- Water consumption and management
- Water uses
- Sources of drinking water
- Water quality
- Water pollution
  - Types of pollution
    - Sources of pollution

- **Water treatment**
  - Municipal water treatment
  - Disinfection
  - Home water treatment
  - Surveillance of drinking water
- **Waste water disposal and treatment**
  - Sewage
  - Biological Oxygen Demand and Chemical Oxygen Demand
  - Types of disposal
  - Pit privies, septic system, etc
- **Solid and hazardous waste**
  - Definition and characteristics
  - Types of municipal solid waste
  - Collection , Management and Disposal of solid waste (landfill , composting, combustions/ incinerator etc)
  - Hazardous wastes-Sources, Types. Collection Management and Disposal of hazardous waste
  - Sanitation, drainage and excreta disposal at fairs/public gathering, rural and urban settings.

- **Air, Noise and radiation**
  - Atmosphere and methods dispersion
  - Chemical characteristics
  - Physical characteristics
  - Air pollution
  - Pollutants
  - Indoor and outdoor air pollution
  - Prevention of air pollution
  - Ventilation
  - **Noise**
    - Physics of sound
    - Physiology of sound and health effects
    - Noise pollution control and prevention
  - **Radiation**
    - Ionizing radiation
    - Radio isotopes
    - Radiations exposure
    - Types of radiation
    - Health effects

        - Prevention
    - **Light, Healthy building and housing**
    - **Risk assessment**
        - Environmental risk characteristics.
        - Development of risk analysis.
        - Tools of risk analysis.
        - Process of risk analysis.
    - Risk management and communication

Occupational Health

- **Fundamentals of Occupational health and work safety**
    - Meaning and Scope
    - Basic principles , application of Occupational Health and Safety at the workplace
    - Promotion of healthy and safe workplaces,
    - Protection of workers' health and well being and early diagnosis of work related disorders and diseases.
    - Basic concepts in screening of occupational disease

- **Occupations hazards and Diseases**
    - Occupational Lung Diseases (pneumoconiosis, asbestosis, silicosis and coal worker's pneumoconiosis); asthma, hypersensitivity pneumonitis, byssinosis and inhalation fevers.)
    - **Occupational Cancers**
    - Basic concepts of carcinogenesis, major occupational cancers.
- **Metals in the Workplace**
    - Exposure and toxicity from major metals in workplace.
    - Idiopathic environmental intolerance and other subjective syndromes.
- **Hazardous Materials and Chemical Emergencies**
    - Exposure to hazardous materials and acute health effects from exposures.
    - Chemical emergencies at workplace.
    - Emergency measures and first aid.
- **Cardiovascular Diseases and Workplace Health and Productivity**
- **Occupational Dermatology and Shift Work and Sleep Disorders** and Work

- Occupational noise exposure and hearing loss.
- Exposure to hazards and health effects from extremes of temperature, pressure, vibration, radiation, etc.

- **Musculoskeletal Disorders**
  - Low back pain, neck pain, cumulative trauma disorders, rotator cuff disorders, epicondylitis, carpal tunnel syndrome.

Practicum

- Visit to Sewage treatment plant, Water purification plant
- Visit to Biomedical waste treatment Plant
- Visit to Fair /Mela/festivals , Industry

Reference

- Essential Environmental Health by Fries, Jones and Bartlett Publishers – 2007
- Living with the Earth- Concepts of Environmental Health Science- Gary S Morare- Lavis Publications
- Environmental Science- Toward a Sustainable future - Richard T Wright, Dorothy F Boors
- Environmental Health by Moeller D.W, Harward University press.
- Park's Textbook of Preventive and Social Medicine, K.Park. Banarsidas Bhanot publishers.

MPH First Semester (Theory)

THEORY EXAMINATION

Duration: 3 Hrs Max Marks: 100

Distribution of Marks

Type of questions	No of questions for each subject	No. of questions and marks for each question	Total Marks
Long Essay	3	3x10	30
Short Essay*	10	10x5	50
Objective type	10	10x2	20

*students are required to attempt 10 out of the 12 short essays.

Semester 2 Core Subject

Health Systems Management and Program Planning

Course Description

This course introduces students to different health systems and its management. It also focuses on designing, implementing, managing, monitoring and evaluation of health programs.

Objectives

At the conclusion of the course, the student will be able to:

- Understand various health systems of developed and developing countries.
- To develop, implement and monitor various public health programs.

Contents

- Introduction to health systems
- Challenges in public health system
- Evolution of public health system
- Public health care system – India
    - Primary health institutions (Primary health centre, sub centers, district hospitals), ASHA, VHSNC,ARS
    - Secondary health institutions
    - Tertiary health institutions and teaching hospitals
    - State and central government hospitals
    - Employee State Insurance
    - AYUSH
    - Communitization of health care
- Private health care system
    - Private hospitals, polyclinics
    - Nursing homes, dispensaries
    - Private practitioners (qualified, traditional health practitioners and non qualified care providers)
    - Multispecialty hospital and medical college hospitals
    - Hospitals run by NGO and Voluntary organizations
- Voluntary health agencies and Not for profit agencies
- Central and state health agencies and organizational structures
    - Planning at Central, State, District, Block and Village
    - Union Ministry of Health and Family Welfare,
    - Directorate General of Health Services,
    - Central Council of Health,
    - State Ministry of Health, State Health Directorate,
    - District Health Organization etc
- Comparison of health systems of various other countries
    - United states of America

    - United Kingdom
    - Canada
    - Germany
    - Russia
    - Japan
    - Africa
    - Thailand
    - Cuba
- Introduction to health care and program planning
- Principles of Management
- Concept of Planning,
- Planning process, structure, and functions of planning
    - Planning cycle, project management cycle
    - Management analysis
    - Political aspect, economic aspects,
    - Epidemiological base for health planning
    - Planning tools- log frame, PERT, CPM
    - Health Planning Models
- Health promotional planning
- Planning health facilities
- Community involvement
- Organization structure and process
- Monitoring and evaluation
- Quality assurance in project management
- Health planning in India, five years plans, district health plans, micro plans, planning at the level of PHC.
- National Health Programs
- Healthcare Legislation in India:
    - Legal aspects of healthcare,
    - The Medical Termination of Pregnancy Act,
    - The maternity benefit act,
    - The immoral traffic(prevention) act,
    - The transplantation of human organs act,
    - PNDT Act,
    - The registration of birth and Death act,
    - The child labour (prohibition and regulation) act,
    - Biomedical waste Rules,
    - COPRA Act,
    - Domestic violence
    - Indian factories act,
    - ESI act

PRACTICUM

- Visit to village for family health study
- Visit to understand Health system functioning
- Rural – i) Government ii) Private iii) Others

- Urban- i) Government ii) Private iii) Others
- Visit to understand other systems of Health eg. Railway, Military
- Grant writing/proposal writing

Reference:

- Valuing Health Systems: A framework for Low and Middle Income countries, by Charles Collins and Andrew Green.
- Health Systems Policy, Finance and Organization by Guy Carrin, Kent Buse, Kristaian Heggen Hougen, Stella R Quah
- The World Health Report 2000: Health systems improving performance, World Health Organization
- Comparative Health Systems : Global Perspectives, By James A. Johnson, and Carleen H. Stoskopf
- Health Care Systems : A Global Survey, Himanshu Sekhar Rout
- WHO and World Bank resources on Health systems
- Public Health Policy And Administration by Brij Mohan Mathur Publisher: Commonwealth Publishers (1998)
- Related Web resources

Semester 2 Core Subject

Global Health and Diseases of Public Health Importance

Course Description

This course introduces students to the global context of public health, and the principles underlying global health. The focus of the course is on international setting, it also examines major diseases of public health importance, challenges, strategies and its response in global perspectives.

Objectives
At the conclusion of the course, the student will be able to:

- Define global health and globalization.
- Describe the principles and scope of global health.
- Understand millennium development goals, how to measure and control.

- Understand the global burden of infectious and chronic diseases
- Discuss and formulate strategies to control diseases.
- Describe the epidemiological features, patho-physiology, clinical features, diagnosis and control of diseases of public health importance.

Contents

- **Introduction to Global Health and Development**
    - Global health –Origin of modern international health
    - Overview of Global burden of disease
    - Comparison and trends of disease burden
    - Urbanization , Globalization, and Migration
    - International key institutions – bilateral and multilateral
    - Global Public Private Partnership
    - Social determinants of health and social inequalities in health.
    - MDG's.
    - Development assistance for health.
    - Priorities for the global research and development of interventions.
    - International travel and health advice
    - International health regulations.
- **Introduction to infectious diseases:**
    - Host pathogen interaction
    - Classification of diseases
    - Sources of infection
    - Disease transmission
    - Laboratory diagnosis of infectious diseases
    - Disinfection and sterilization
    - Molecular mechanism of microbial pathogenesis
    - Host defense mechanism
    - Immunity , immunization and types
    - Vaccines and cold chain

Epidemiology of infectious diseases:

- Respiratory infections (Small pox, chicken pox, measles, rubella, mumps, influenza, diphtheria, whooping cough, meningococcal meningitis, acute respiratory infections, SARS, Tuberculosis.)
- Intestinal infections (Poliomyelitis, viral hepatitis, acute diarrheal diseases, Cholera, typhoid fever, food poisoning, amoebiasis, ascariasis, hookworm infection)
- Arthropod-borne infections (Dengue, malaria, filariasis,)
- Zoonoses (Rabies, yellow fever, Japanese encephalitis, chickungunya fever, leptospirosis, plague, salmonellosis
- Rickettsial diseases
- Parasitic zonoosis- (hydatid diseases, scabies, pediculosis, leishmaniasis)
- Nosocomial infections
- Sexually transmitted diseases
- Toxins : Botulism, tetanus

Epidemiology of chronic and lifestyle diseases:

- Cardiovascular diseases
- Hypertension and ischemic heart diseases
- Stroke
- Cancers (Breast, Cervical, Lung, Oral, Prostate, Skin)
- Diabetes
- Obesity
- Blindness
- Accidents and injuries
- Mental health
- Arthritis, osteoporosis
- Alzheimer's diseases
- Parkinson's diseases
- Suicides
- Dental caries

Practicum

- Visit to infectious disease hospitals
- Outbreak investigation
- Survey of Non Communicable Diseases

References

- Oxford Textbook of Public Health, 5th edition, edited by Roger Detels, Robert Beaglehde, Mary Ann, Lansang, Martum Gulliford.
- International health regulations – published by WHO

- International travel and health
- Disease control priorities in developing countries , second edition – oxford university of public health and word bank.
- Text book of International Health: Global Health in a Dynamic World, by Anne Emmanulle Birn , Yogam Pillar , Timothy H Holtz
- Global health : Diseases Programmmes , System and Policies by Michel H Merson, Robert E black and Anne J Mills
- Harrison's infectious diseases
- Harrison's Principles of Internal Medicine
- Davidson's Principles and Practice of Medicines
- Park's Textbook of Preventive and Social Medicine, K.Park. Banarsidas Bhanot publishers

Semester 2 Core Subject

Research Methodology and Ethics in Public Health Practice

Course description:

The course enables the student to understand the various health issues and problem from the angle of an intuitive approach and develop an originality in their thinking and a deep insight into the issues with a critical mind in areas like planning, policy analysis and program evaluation.

Objectives
At the conclusion of the course, the student will be able to:

Equip students with quantitative and qualitative research techniques.

Contents

- Concept of health system
- Meaning , characteristics and guidelines for conducting health systems research
- Types of Research in Public health management- descriptive, ecological, epidemiological, action and experimental research
- Role and methods of Review of literature as a tool for planning research
- Role of theory, Cause and effect phenomenon in research and formulation of hypothesis in research
- Quantitative , Qualitative and Ethnographic research methods and their application in Public health
- Steps in Planning of Research studies in general
- Different types of surveys and their planning
- Planning and conducting participatory action research in public health management
- Research designs in clinical research and intervention studies

- Assessment of Performance indicators in Public health management
- Scope of Operation Research in Public health management
- Introduction to Important Operation Research methods-
    - Systems analysis
    - Linear programming technique
    - Network analysis
    - Queuing theory

Ethics:

- Ethics in research
- Conflict of interest and integrity in research
- Ethical review process- committees , roles and responsibilities
- Evaluation of risk and benefits of research
- Ethical reasoning
- Ethical issues in public health programmes.

Practicum

- Planning and developing research projects
- Data collection
- Analysis of data
- Designing research programmes

Reference

- Sarantakos : Social research, Mac Millan press, Harupshire, Australia
- Festinger and Katz : Social research, Longman, London
- Jahoda Maric et al: Research methods in social relations, free press, New York
- Kothari, C.R : Research methodology, Viswaprakasan, Bombay
- Park K : Park's text book of preventive and social medicine, M/s Banarasidas Bhanot, Jabalpur

Semester 2 Core Subject

Public Health Informatics

Course description:

The public health informatics course provides students with a basic understanding of Informatics and its application in public health settings. The course provides basic technological tools and building blocks needed to develop and manage Public Health data collection systems and to meet respective analytical needs.

Objectives

At the conclusion of the course, the student will be able to:

- Understand the fundamentals of computers
- To gain knowledge of various components of database applications and management
- Develop and adopt public health information system as needed to support public health policies, programmes and interventions
- Assist in the development and adoption of appropriate information technology in public health practice.

Contents

- **Introduction to Public Health Informatics**
    - What is public health informatics?
    - Principles of public health informatics
    - Components of public health informatics
    - Health informatics
    - Data, Information, Knowledge and Wisdom
    - Importance of data
    - e-Health and m-health
- **Fundaments of computers**
    - Basics of computer and its elements
    - Computers for individual use and for organizations.
    - Memory devices , input devices, output devices, CPU, hardware, software's(system software and application software's)
    - Storage devices
    - Computer networking, telecommunication ,including internet and cloud computing
    - Data base management system-Databse, types of database, , data warehousing and data mining (creating data base tables, viewing records, sorting records, querying database tables, generating reports)
    - SQL.
- **Information System:**
    - Information system and types of information systems
    - Information system , organization and strategy
    - Design, building information system, planning and development.

- **Public Health Informatics**
    - Information architecture
    - Core competencies in public health informatics
    - Assessing the value of information system
    - Managing IT personal and projects.
    - Public health informatics and organizational change
    - Privacy , confidentiality and security of public health information
    - Data standards in public health informatics
    - Evolution of public health informatics
    - Risk factors and risk mitigations in information system
- **Application of public health information system**
    - The national vital statistic system
    - Risk factor information system
    - Knowledge based information and system
    - Immunization registries
    - Geographic information system
    - Telehealth and telemedicine
    - Electronic health records
    - Electronic population registries
    - m- health and use of mobile technology
    - Public health information ethics.

Practicum

- Window and GUI.
- Ms Word- full working and practice
- MS Excel- how to operate, developing a work sheet, simple calculations
- MS power Point- how to make a presentation
- Use of internet- access, e-mail, search engine and health related websites, how to search for literature

References:

- Public Health Informatics and Information Systems by Patric W.O'Carroll, William A Yasnoff, M Elizabeth Ward. Laura H Ripp, Ernest L Martin
- Health Informatics: Practical guide for health care and information technology professionals by Robert E Hoyt.
- Health Care Information System, A Practical Approach for health care management by Frances Wickham Lee, Karen A Wager
- Management Information System :Managing Digital Firm by Ken Laudon, Jane Laudon, Rajanish Dass

- Essentials of Health Information System and Technology
- Evaluating and organizational impact of health care information systems by James G Anderson, Carolyn Ayotin
- Developing Health Management Information Systems: A practical guidelines for developing countries.
- Introduction to computers by Peter Norton , Tata Mc Graw Hill
- Data base management systems by Raghu Ramakrishnan and Johannes Gehkke.

Semester 2 Core Subject

Population Health (Maternal, Child Health and Family Welfare)

Course Description

The course enables the students to get acquainted with the population science and basic issues in human culture, economic behaviour, which are essentially the grounds on which the health issues develop and sustain. The focus of the course is on population growth and dynamics of population growth. The course also introduces students to the basic concepts of women's health, child health and family welfare**.**

Objectives

At the conclusion of the course, the student will be able to:

- Understand the basics of demography
- Use demographic tools in understanding public health issues Knowledge attitude and practices.

- Discuss global demographic regimes and impact on public health.
- Identify women's health issues that affect women throughout their lifespan and be able to discuss these issues from a public health perspective of health promotion and disease prevention
- Learn about factors affecting the health of mother and child, the existing services for mother and child.
- Identify the family welfare concepts, principles and the role of health administration in the implementation of the programs.

Contents

- **Demography**
  - Definition, nature, scope, and importance of demography
  - Development of demographic research developing countries such as India
  - Sources of data- census, vital statistics, NSSO, NFHS
  - Rates and ratios, Midyear population, measures of fertility, morbidity and mortality.
  - Population theories
- **Population growth**
  - World population growth- regional distribution (India, China, US, Germany, France, Japan, Nigeria, Kenya, Bangladesh, Singapore, UAE)
  - Population growth and distribution in India and its states.
  - Population structure and characteristics
  - Age, sex distribution in India and selected countries.
  - Marital status- age at marriage and public health concerns
  - Sex ratio in India and selected countries
  - Sex ratio trends observed in different states, causes and consequences
- **Reproductive Health:**
  - Menarche, menopause and associated problems and management
  - Fertility, fecundity , sterility, primary and secondary, abortion , natural fertility – biological limits, social determinants, physiological factors, role of social and cultural factors of fertility , still births levels trends, breast feeding.
  - Informed decisions making on reproductive issues
  - Differences in fertility with respect to selected countries.
- Population policy India and China and Global over view
- Family planning programme: critical review of selected countries family planning programme and its achievements
- Methods of birth control
- **Women's health :**
  - Evolution of MCH services
  - Reproductive pattern and its effect or maternal and child health.
  - Measures of reproductive pattern

- Age at marriage, Maternal age, Number of children born (parity , gravidity and birth order)
- Birth interval –pregnancy, delivery and spacing.

- **Measures of Health- Mortality**
  - Maternal Mortality Rate/Ratios
  - Infant and Child Morality
  - Foetal Loss
  - Trends of maternal, infant and child mortality in selected countries.
- **Measures of Morbidity**
  - Maternal complication or illness of pregnancy/delivery
  - Maternal Nutrition and health
  - Infant birth weight/Prematurity
  - Birth defects
  - Infants/Child Nutrition/ Infections
- **Growth and Development**
  - Height/Weight, Body mass index
  - Intelligent Quotient(IQ)
- **Interpersonal and Social dimensions of womens health**
  - Substance abuse, violence, harassment
  - Women in work place

• Programme interventions to improve Maternal and Child Health like:

- MCH,
- Safe Motherhood and Child Survival programme,
- Reproductive and Child Health (RCH) programme
- Components, implementation and Outcomes- Critical Assessment,
- National rural Health Mission- Salient feature, critical review - implementation

• Integrated child development Services (ICDS)-

- Organizational structures,
- Outreach,
- Critical assessment,
- Impact

• School Health Programme- Critical Review, objectives and Components.

- Child labour,
- Child schooling and impact on health
- Childhood Disabilities- Problems, types, Causes, Preventive measures, Sources of data, community Rehabilitation**.**

• Family Welfare Programme: Historical View from birth control to family welfare, clinical Approach, Cafeteria Approach, Target based Approach, Target free approach, Organizational Structure, Eligible couple Survey. Key Personnel Involved, ANM, National , state level Evaluations, Source of

Data for the Programme, demographic goals, All India Hospital Post Partum Programme, Administration of Programme.

Practicum

- Visit to maternity homes, PHCs
- Visit to NGOs working on women's issues.

Reference

- Park K: Park's textbook of preventive and social medicine, M/s Banarasidas Bhanot, Jabalpur**.**
- Morlev David: Pediatric priorities in the developing world London.
- Venkatachalam P.S. Nutrition for mother and child, ICMR, New Delhi. • Gaopalan C and Chatterjee : Use of growth chart for promoting child nutrition.
- Nutrition Foundation of India.
- Clive Wood: contraception explained Geneva WHO
- Peel John and Potts Malcolm: Text book of contraception practices, Cambridge Uty. Press.
- Asha A. Bhendre and Thara Kanitkar : Principles of population studies, Himalaya publishing house, Bombay.
- Population reports: John Hopkins University, Baltimore, USA
- New dimensions in women's health, by Linda Lewis Alexander Burlington, MA : Jones & Bartlett Learning

MPH First Semester (Theory)

THEORY EXAMINATION

Duration: 3 Hrs Max Marks: 100

Distribution of Marks

Type of questions	No of questions for each subject	No. of questions and marks for each question	Total Marks
Long Essay	3	3x10	30
Short Essay*	10	10x5	50
Objective type	10	10x2	20

*students are required to attempt 10 out of the 12 short essays.

Semester 3 -Elective

Public Health in Rural and Urban Areas

Course Description

This course introduces students to the issues of public health in Rural and Urban areas. Students will be exposed to rural and urban community, its

people, the health care issues they face, and the practice of public health in rural and urban communities.

Objectives

At the conclusion of the course, the student will be able to:

- Understand the issues of public health in rural and urban areas.
- Understand the role of socio cultural factors in public health.
- Describe the specific health and disease prevalence in urban and rural areas.
- Discuss various best practices, case studies and models for rural and urban health development.

Contents:

Rural Health

- Understanding rural health
- Socio-political system in rural areas
- Health assessment in rural areas
- Strategies for building coalition in rural communities
- Access to healthcare in rural areas
- Public health challenges in rural areas.
- Making a large and lasting impact
- Understanding community change
- Accountability through better paper work
- Community based development: Ding Xian
- Development without wealth: Kerala
- An Evolving balance between people and nature: Adironbacks
- The role of conceptual and cultural breakthrough
- Case studies on: Curtiba-Brazil, Jamkhed and Gadchiroli-India, Kakamega-Kenya, The White Mountain Apache-United States, China, Peru

Urban Health

- Urban health in global perspectives
- Healthy cities
- Globalization
- Urban health services
- Migration
- Urbanizations : Infectious diseases and chronic diseases
- Crime, violence and public health in urban life.
- Disasters
- Water sanitations, environment and transportation
- Immigration

- Urban terrorism

Case studies:

- Populations: homeless people, people economically deprived, ethnic and racial minorities, sexual minorities
- Bridging gap between urban health and urban planning.
- Urbanization and health in low, middle and high income countries.
- Determinants of urban health status.
- National urban health mission

Reference

- Rural Public Health: Best Practices and Preventive Models by Jacob.C Warren
- Just and Lasting Change by Daniel Taylor Ide and Carl E.Taylor
- Urban Health: Global Perspectives by David I
- Handbook of Urban Health: Populations, Methods, and Practice by Galea, Sandro, Vlahov, David

Semester 3 -Elective

Emergencies and Disaster Management

Course Description:

This course introduces students to emergency preparedness and planning. Special focus will be on strategies, emergency planning, assessment of hazards, resources and management of emergencies and disasters.

Objectives

At the conclusion of the course, the student will be able to:

- Discuss emergencies and disasters and types.
- Analyze the public health perspectives and models related to disaster management
- Discuss the disaster cycle of preparedness, response, reconstruction and mitigation
- Understand the political, economical social and cultural factors which affect the public health of population during disasters.
- Describe the public health needs of refugees and internally displaces person

- Discuss case studies on major disasters and preparedness.

Contents

- **Introduction to disaster preparedness and planning**.
    - Types of disaster
    - Natural and manmade
    - Technological disaster
    - Conflict
    - Chemical accident
    - Terrorism
    - Essentials of disaster planning
    - Environment and occupational health issues
    -
- **Disaster and role of public health**
    - Complex emergencies
    - Weapons of mass destruction
    - Bioterrorism
    - The effects of disasters on health
    - Psychological effects of Terrorism
- Public health response to emerging infections and biological incidents
- **Preparedness and emergency management**
    - Hazard assessment
    - Vulnerability analysis
    - Risk assessment, Mitigation
    - Early warning
    - Roles of governments, NGO and Private agencies.
    - Involvement of volunteers.
    - Disaster communication and Role of media
    - Emergency operation and development
    - Public health considerations in recovery and reconstruction
    - Mass casualty management systems
    - National and international model and disaster management.
    - Disaster surveillance and use of information technology
- **Evaluation methods for assessing public health and medical response during disasters.**
- **Ethical consideration in public health emergencies**

References:

- Introduction to Emergency Management by Haddow G. and Bullock J
- Public Health Management of Disasters : The practice guide by Linda Young Landesman
- The public health consequences of disasters
- WHO Manual for the Public Health Management of Chemical Incidents.
- Other WHO manuals and web resources

Semester 3 -Elective

Health policy, Health Economics and Health Financing

Course Description
This course introduces students to the basic health policy planning, processes, and health financing

Objectives
At the conclusion of the course, the student will be able to:

- Understand health policy issues pertaining to public health
- Formulating health policy
- Basic introduction to health economics, Budget and finance in health care

Contents

Health policy

- Introduction to policy
- Health Policy overview
- Agenda setting in Public Health Policy
- Public Health Policy Reforms
- Normative and Value based policy
- Evidence and Public Health Policy
- Policy making process, policy development and implementation
- Role of State Government in public health
- Alma Atta and Primary Health Care
- Millennium Development Goals
- Health Inequalities
- Resource Allocation
- Human right approach and Public Health Policy
- Health policy analysis
- Health policy in context of market economy

- National health policy, State health policy, Population policy, Women's policy, Nutrition policy, Drug policy, Medical education policy, Old age policy
- Comparison of various international health policies (USA, UK, Canada, China, France, Thailand, UAE, Kenya, Nigeria, Germany, Sweden)
- Advocating policy change

Health Economics

- Introduction- micro and macro approach health economics
- Issues in public health in relation to economics, budgetary issues in public health.
- Fundamentals- demand, supply, consumption, saving, investment
- National income- GNP, NNP, GDP
- Measures economic development

Health Financing

- Healthcare financing and the Health System
- Health care costs, Structure and Trends.
- Determinants of National Health Expenditure
- Resource allocation
- Cost influenced treatment decision and Cost Effective Analysis.
- Decision Analytic Modeling
- Equity in Health Finance.
- Governance issues in Health Financing
- Universal Coverage in developing countries
- Insurance plans and Programs
- Community Health Insurance in developing countries
- The demand for Health Care
- Long term care, Organizations and Financing
- Innovative financing of health promotion

Practicum

Budget planning for various activities

Reference

- Health Systems, Policy, Finance and Organization, By Guy Carrin, Kent Buse, Kristian Heggenhougen. Elsevier
- Health Economics in India, Himanshu Sekhar Rout, Prasant Panda, 2007
- Valuing Health Systems : A Framework for Low and Middle Income Countries, by Charles Collins and Andrew Green.
- Making Health Policy By Kent Buse, Nicholas Mays and Gill Walt
- The World Health Report 2000: Health System Improving Performance. By World Health Organization

- Health Economics in Development: by World Bank
- Understanding Health Economics by John Rapoport
- Health Economics and Financing by Thomas E Getzen
- Health Economics for Developing Countries: A Practical Guide: by S.Witter, T.Ensor, M.Jowettand R.Thompson
- Health Policy Research in South Asia: Building Capacity for Reform (Health, Nutrition, and Population Series) Abdo S. Yazbeck , David H. Peters

Semester 3-Elective

Public Health Leadership and Management

Course Description:

The Public health leadership course provides students with knowledge and skill to manage and lead Public Health Programmes and Organizations.

Objectives
At the conclusion of the course, the student will be able to:

- Discuss basic concepts of leadership
- Learn and apply leadership skills in public health management

Contents

- **Basics of Leadership:**
  - Definition of Leadership
  - Public Health Leadership Principles
- Leadership Style and Practices:
  - Leadership Styles
  - Leadership traits
  - Leadership Practices
  - Talents
- Interface between Management and Leadership
  - Managers and Management
  - Case Studies
  - Transactional and transformational Leadership
  - Mete Leadership
  - Public Health Management.
- System and System Thinking
- **Leadership application in Public Health:**
  - Leadership Wheel and organizational Change
  - Levels of Leadership
  - Leadership and Assessment
  - Leadership and Assurance
- **Leadership skills**
- **Leadership and communication**
  - Communication process
  - Interpersonal communication
  - Active listening
  - Public speaking
  - Communication and cultural sensitivity
  - Feedback
  - Delegation of authority
  - Framing
  - Meeting skills
  - Health communication
- **Leadership and people development**
  - Organizational staff relationship
  - Community relationship

- **Leadership and planning**
    - Community health planning
    - Strategic planning
    - Reinventing government
    - Public private partnership
- **Decision making**
    - Conflict resolution
    - Negotiation
- **Measuring of Leaders:**
    - Leadership competencies frame work
    - Credentialing and accreditation
    - Quantitative Leadership Assessment Technique.
- **Evaluation**
- Evaluation of transforms

Reference

- Public Health Leadership: Putting Principles Into Practice (Aspen Series In Public Health) by Ph. D. Rowitz Louis
- Public Health Leadership And Management: Cases And Context by Stuart A. Capper, Peter M. Ginter, Linda E. Swayne
- Essentials Of Management And Leadership In Public Health by Robert E. Burke, Leonard H. Friedman
- Transforming Public Health Practice: Leadership And Management Essentials by Bernard J. Healey, Cheryll D. Lesneski

Semester 3-Elective

Public Health Nutrition

Course Description:

This course introduces students to the scientific knowledge about food and public health nutrition. The course provides basic understanding of factors and dynamics involved in public health nutrition. It focuses on improving the food choices, dietary intake and nutritional status at the community and national level.

Objectives
At the conclusion of the course, the student will be able to:

- Understand the concepts of public health nutrition

- Explain the importance of food and nutrition in public health.
- Discuss the nutritive values of food.
- Describes method for evaluating community nutritional status.
- Describe nutrition related disorders of public health importance.
- Identify and develop methodologies for nutritional intervention at individual, community and national level.
- Understand nutritional policies and its interventions.
- Critically review the strengths and weakness of the nutritional programmes and policies of developed and developing countries

Contents

- **Introduction to public health nutrition**
  Basics of nutrition
    - Definition, Food group, Balanced diet
    - Public health nutrition cycle
    - Importance of nutrients : Macro and Micro nutrients
    - Nutritive value of food groups
    - Recommended dietary allowance
    - Public health nutritionist –functions and competencies
- **Nutrition throughout life**
    - Nutrition during pregnancy and lactation,
    - Breast feeding and complimentary feeding.
    - Nutrition during infancy
    - Nutrition during childhood
    - Nutrition during adolescents
    - Nutrition during adults
    - Nutrition during old age
- **Nutritional assessment of individual and population**
    - Nutrition screening and surveillance tools.
    - Nutrition monitoring and screening tools –Anthropometric assessment, biochemical, biophysical, clinical and dietary assessment.
- **Public health strategies for the intervention at ecological level and individual level**
    - Definition of ecological approach
    - Individual v/s ecological
    - Advantage and disadvantage of ecological approach
    - Interventions at individual level and ecological level
    - Social marketing
    - Nutrition during disasters (flood and earthquake etc)
- **Public health aspects of over nutrition and under nutrition**

Over Nutrition

- Macronutrients, excess energy intake and overweight.
- Obesity as determinant of mortality and morbidity
- Metabolic syndromes
- Perspectives on the future

Under nutrition:

- Clinical syndromes of under nutrition –PEM
- Micronutrient deficiencies – iodine, iron , vitamin, zinc

- **Role of nutrition on health and lifecycle diseases**
  - Cardiovascular
  - Kidney
  - Pancreatic disease
  - GERD
  - Cancers
- **Nutrition education**
  - Principles of nutrition education
  - Designing nutritional health messages-school children, women, adults and elderly.
- **Food safety and food security**
  - Food security
  - Food additives
  - Food adulterants
  - Food fortification
  - Prevention of food contamination
  - Food borne illness
  - Food labeling-food and dietary supplements.
- **Role of government in public health nutrition**
  - Policies and programs in selected countries – Bangladesh, China , Singapore, India, USA, Germany, France, Japan, Nigeria, Kenya and UAE
  - Public distribution system and open market
  - International cooperation for food

Practicum

- Visit to CFTRI, ICDS, NDRI
- Nutritional assessment at community and school

References

- Nutrition In public health- Principles, Policies and Practice by Arlene Spark
- Public Health Nutrition (the nutrition society text book)by Michael J Gibney, Barrie M Margetts, John M Kearney,
- Community nutrition in action – An entrepreneurial approach by Marie A Boyle, David H Holben.
- Handbook of nutrition and Food by Carolyn D. Berdanier, Johanna T. Dwyer, David Heber (CRC press)

Semester 3-Elective

Health and Human Rights

Course Description:

The course provides an essential knowledge base and the foundation about concepts, methods, and governance framing the application of health and human rights.

Objectives
At the conclusion of the course, the student will be able to:

- Improve the knowledge and understanding regarding the key linkages between human rights ideals, legal guarantees of human rights, the promotion and protection of public health and medical care, using the tools of public health and the legal structure
- Enhance advocacy for building familiarity with, international human rights standards, instruments, especially on those that impact upon the health of populations and individuals.
- Introduce skills needed to investigate, analyze, and document abuses of human rights as they relate both to health practice (patient care) and public health practice

Contents

- **Introduction**
- **Health and Human Rights Overview**
    - Health and Human Rights,
    - History, Principles and Practices of Health and Human Rights,
    - Human Rights Approach to Public Health Policy,

- Health Systems and the Right to the Highest Attainable Standard of Health
- Universal Declaration on Bioethics and Human Rights
- The Nuremberg Doctors Trial
    a. Opening Statement of the Prosecution
    b. Excerpts from Judgement

- **Concepts, Methods and Governance**
    - Importance of Human Rights in Public Health Practice
    - Access to Essential Medicines as Part of the Fulfillment of the Right to Health
    - Human Rights, Health and Development,
    - A Poverty of Rights: Six Ways to Fix the MDGs,
    - Child Rights and Child Poverty
    - Indicators to Determine the Contribution of Human Rights to Public Health Efforts
    - Pillars for Progress on the Right to Health: Harnessing the Potential of Human Rights Through a Framework Convention on Global Health
- **Heightened Vulnerability and Special Protection**
    - War and Human Rights,
    - New Challenges for Humanitarian Protection,
    - Torture and Public Health
    - Refugees, and the Politics of Access to Health Care
- **Addressing System Failures**
    Gender, Health and Human Rights,
    - Sexual Orientation, Gender Identity and International Human Rights Law
    - Reproductive Health as a Human Right
    - The Importance of a Rights-Based Approach to Reducing Maternal Deaths
    - Protection of Sexual and Reproductive Health Rights: Addressing Violence Against Women,
    - Mental Health and Inequity: A Human Rights Approach to Inequality, Discrimination, and Mental Disability
    - Governments in Times of Crisis: Neglecting to Uphold the Right to Nutrition
    - Human Rights-Based Approach to Tobacco Control
- **Changing World**
    - Global Health and the Global Economic Crisis
    - Climate Change and Human Rights
    - Pandemics and Human Rights
    - Bioterror and "BioArt" – A Plague o' Both Your Houses
    - Harm Reduction, HIV/AIDS, and the Human Rights Challenge to Global Drug Control Policy
    - Tuberculosis Control and Directly Observed Therapy from the Public Health/Human Rights perspective

- A Human Rights-Based Approach to Non-Communicable Diseases
- Bias, Discrimination, and Obesity
- Human Rights: A New Language for Aging Advocacy

References

- Health and Human Rights in a Changing World, 3rd Edition by Michael Grodin, Daniel Tarantola, George Annas, Sofia Gruskin Routledge – 2013
- 25 Questions and Answers on Health and Human Rights ,World Health Organization Health and Human Rights Publication Series Issue No.1, July 2002

Semester 3-Elective

Health Education and Health Promotion

Course description

This course introduces students to basics of health education and health promotion pertaining to public health practice.

Objectives
At the conclusion of the course, the student will be able to:

- Define and discuss concepts of health education, communication, and health promotion.
- Design and develop health education and health promotion activities and programs

Contents

Health education

- Definition, objectives, principles, contents
- Application, methods, approaches
- Tools.
- Health education Vs propaganda,
- Adoption process – Roger's model – application.

- **Health communication**
  - Introduction
  - Principles
  - Process
  - Application in health
  - Models of communication
  - Elements of communication
  - Factors influencing communication
  - Barriers of communication
- **Channels of health communication**
  - Traditional
  - Modern
  - Individual
  - Group

- Mass
- Target groups

- **Communication techniques and strategies.**

Health Promotion

- Overview of concepts of health promotion
- The Ottawa Charter and Jakarta Charter
- Models of health promotion (Biomedical model, behavioral model, socio-environmental model.
- Application of Major social and behavioral theories in health promotion (Behavioral change theories: Health Belief Model, Stages of change theory, social learning theories. Community change theory: diffusion of innovations
- Developing health promotion strategies in community and hospitals
- Role of professional health educator in health promotion

- **Emerging priorities in health promotion program**
  - Health promotion in people with disabilities
  - Health program in workplace
  - Health promotion Towards health equity
  - Health promotion Violence and crime
- **Competencies required for development of health promotion program**
  - Leadership in health promotion program
  - Quality improvement in health promotion program
  - Evidence based health promotion
  - Partnerships and collaboration
  - Economic evaluation for health promotion
- MAPP(Mobilizing for Action Through Planning and Partnership
- **Role of media in health promotion**
  - Mass media
  - Inter personal communication
  - Role of communication in promoting healthy lifestyle
- **Cost effective health promotion strategies**
  - Role of corporate and factories in health promotion
  - Role of internet viz. email, web portals etc. in health promotion
  - Role of government and private sector in health promotion

Practicum

- Writing Health Messages

- Handling Communication Aids
- Developing Communication Campaigns – PLA, FGD, Counseling
- Health education activities in schools, and community
- Health promotion activities

Reference

- Ramachandran and Dharmalingam: Health education – a new approach, Vikas publishing
- Park K, Park's Textbook of preventive and social medicine, M/s Banarasidas, Jabalpur
- Banerji D, Poverty, class and health promotion and protection WHO, Copenhagen
- Health education: creating strategies for school and community health By Glen Gordon Gilbert, Robin G. Sawyer
- Kari S,Lankinen et al: Health and diseases in developing countries, Mac Milan, Press, London
- David Morelyi : Practicing Health for all, Oxford university press, London
- Banerji D: Health and family planning services in India, Lok Prakash, New Delhi
- WHO: Intersectoral Linkages and health development
- World Bank: World Bank Development report, Washington
- Green A: An Introduction to health planning in developing countries, Oxford University Press
- Anita N I I: People health in people hands, the foundation for research in community health
- Ebrahim G M: Primary health care – re-orientation organizational support, Mac Millan, London.

Semester 3-Elective

Aging Population

Course Description
This course provides an overview of issues related to public health and aging population. The course introduces the study of aging and its implication on individuals and society. Special focus is on demographic and epidemiology of aging population.

Objectives
At the conclusion of the course, the student will be able to

- Understand and describe basic demographic trends in aging population/ older population.
- Describe major health problems and issues for older population and their implication on public health
- Understand the government's role on aging population and their policies

Contents

- Introduction to geriatrics and aging population
- Demography and epidemiology of aging
- Theories of aging
- Biological (physiological) changes of aging
- Major diseases of aging
- Hypertension, diabetes, joint disorders, cataract, neurological disorders
- Aging and Disability
- Services available
- Mental disorders of older persons
- Health behavior and health promotion
- Nutritional requirements of older population
- Prevention of injuries and diseases
- Health services of older population
- Ambulatory, hospital, end of life care
- Social aspects related to aging population
- Policy for elderly

Reference

- The Aging Population in the Twenty-First Century
- Statistics for Health PolicyGlobal Population Ageing: Peril or Promise?
- International Handbook of Population Aging by Uhlenberg, Peter
- Economics of Aging Population by Walher H. Franke and Richard C. Wilcock

Semester 3-Concentration in Biostatistics and Epidemiology

The MPH concentration in Biostatistics and Epidemiology focuses on providing students with applied knowledge, skills and competencies to participate, design, conduct research, and analyse epidemiological research studies in public health practice.

Applied Epidemiology

Course Description
This course provides students with applied knowledge and skills in designing and analysing epidemiological research, tools and application of the tools in public health practice to prevent diseases and promote health. It also provides hands on training in some epidemiological tools and software related to epidemiology.

Objectives
At the conclusion of the course, the student will be able to

- Develop efficient study designs, collect, record, store data in public health and health care research.
- Illustrate statistical analysis and data mining using statistical software
- Evaluate the merits and feasibility of epidemiological study designs
- Analyze the data and draw inference from epidemiological studies

Contents

- Key methodological concepts and issues.
- Outbreak and cluster investigation
- Public Health Surveillance

- Epidemiology and risk assessment
- Screening in a community
- Epidemiological issues and design of community intervention trial.
- Epidemiological issues in outcome research
- Economic evaluation
- Field methods in epidemiology
- Temporal trend analysis
- Meta analysis
- Measuring the quality of life
- Community and epidemiological information's
- DALYS

References

- Applied Epidemiology: Theory to Practice by Rose. C. Brownson and Diana B Petitte
- Applied Epidemiology and Biostatistics by Giuseppe La Torre
- Methods in Field Epidemiology by Dia. M. Mac Donald

Semester 3-Concentration in Biostatistics and Epidemiology

Applied Biostatistics and Data Analytics

Course Description

The MPH concentration in Biostatistics and Epidemiology focuses on providing students with applied knowledge and skills and competency to participate, design, conduct research and analysis of research studies in public health practice as well as apply the concepts in practice. This course provides a broad foundation in modern biostatistical computing methods relevant to public health research

Objectives
At the conclusion of the course, the student will be able to

- understand computational methods as applied to statistical analysis, which include data operation, numerical integration and differentiation
- use common statistical software for exploratory and inferential data analysis using graphical tools and basic statistical method
- Illustrate statistical analysis and data mining using statistical software
- Demonstrate proficiency in data analysis and appropriate interpretation of results
- Analyze the data and draw inference from epidemiologic studies

Contents

- Data mining using statistical software: Epi Into, SPSS, SAS and R.
- Pearson correlation
- Linear regression, model diagnostics and influential observations
  T-test
- One-way anova, posthoc tests

- Multiple linear regression, polynomial regression, interaction, model selection

- Multiple anova with and without interaction

- Analysis of covariance

- General linear model

- Generalized linear model, simple and multiple logistic regression

- Survival analysis: censoring, Kaplan Meier, comparison of survival curves (logrank, Wilcoxon (Gehan) test), Cox regression

Semester 3-Concentration in Public Health Informatics

Database Technologies, Data Warehousing and Data mining

Course Description

The course provides students with the basic understanding of data terminologies, concepts, models and principles of database technologies and management as well as knowledge management within the context of public health. This course also will help the students to develop a basic understanding of data warehousing and data mining technologies.

Objectives
At the conclusion of the course, the student will be able to

- Describe and discuss the principles of database management system.
- Apply the concepts of database management in public health practice.
- Explain the key concepts in database design, aggregating, normalizing, integrating and analyzing public health data.
- Understand the concepts of data warehousing and use data warehousing tools such as OLAP and ETL.
- Apply data mining technologies in public health practice.

Contents

- The Relational model:
- Entity Relationship model
- Database tables
    - SQL – data manipulation
    - SQL –data definition
    - Query
- Data analysis and design techniques:
    - Database planning, design and administration
    - Fact finding techniques
    - Entity relationship modeling
    - Enhanced ER modeling
    - Normalization
- Methodology
- Conceptual database design
- Logical database design
- Physical database design
- Database security
- Distributed DBMS
- Web technologies and DBMS
- Data warehouse concepts and designs
- OLAP
- Data mining
- Fundamentals of Database administration

Reference

- Database System: Design, Implementation and Management by Rob and Coronel.
- Database Management Systems by Raghu Ramakrishnan and Johannes Gehrke
- Data Warehousing, Data Mining, and OLAP (Data Warehousing/Data Management) by Alex Berson , and Stephen J. Smith

Semester 3-Concentration in Public Health Informatics

Software Engineering, Project Development and Management

Course Description
The course provides an overview of software engineering, project development and management. This course is designed to enable the students to understand the various aspects of software engineering, concepts of project management and object oriented analysis and design.

Objectives
At the conclusion of the course, the student will be able to

- Discuss the software designing and development process.
- Apply the system requirement principles in public health practice
- Identify problems or flaws in health or public health software

- Plan and implement software development programs.
- Apply practical project management tools in public health information systems.

Contents

- **Introduction to Software engineering**
  - Professional software development
  - Software engineering challenges
  - Software engineering approach
- **Software process**
  - Process and process models
  - Characteristics of software process
  - Software development and process models
- **Software requirement analysis and specification**
  - Software requirement
  - Problem analysis
  - Requirement specification
  - Functional specification with use cases
  - Validation
- **Planning a software project**
  - Process planning
  - Project evaluation
  - Software effort evaluation
  - Project scheduling and staffing
  - Software configuration and management plan
- **Object oriented designs**
  - Coding process
  - Testing
- **Managing contracts**
  - Types of contracts
  - Stages of contractual placement
  - Acceptance
- **Managing people and organizing teams**.

References:

- Software Project Management , by Bob Hughes and Mike Cotterell
- Software engineering by Ian Sommerville
- An integrated approach to software engineering by Pankaj Jalote, Springer
- Pankaj Jalote's Software Engineering: A Precise Approach , Wiley

Semester 3-Concentration in Health Systems Management and Health Financing

Health Systems Management -2

Course Description
This course provides students an in-depth understanding of health systems and processes through which public policy decisions are made in selected low, middle, and high-income countries

Objectives
At the conclusion of the course, the student will be able to

- Understand the concepts of health systems management

Contents

- Comparing health systems
    - Pooling
    - Provision of services
    - Major types of health systems
- Good Governance in Public and Private Organizations
- Valuing management
- Managing Human Resources
- Managing Finance
- Managing Medicines and Health Products
- Strategic management of Healthcare

- Intersectoral Action for Health and Health Service delivery
- Achieving results by strengthening health systems: Value based approach.
- Health systems responsiveness : A measure of acceptability of health care processes and systems from the users perspective
- Measuring equity of health to access to health care
- Health systems productivity and efficiency
- Health systems around the world
- National health systems overview
- Urban health system
- Comparative health system
- Healthcare of indigenous people or nation
- World Health Report 2000: Health system's improving performance.
- Case discussions and Seminar on latest issues and topics

Reference

- Health Systems Policy, Finance, and Organization by Guy Carrin Kent Buse Kristian Heggenhougen Stella R. Quah
- Performance measurement for health system improvement Experiences, Challenges and Prospects by Peter C. Smith, Elias Mossialos, Irene Papanicolas, Sheila Leatherman
- Strengthening health systems: the role and promise of policy and systems research
- Health Systems in Industrialized Countries by Bianca K. Frogner, Peter S. Hussey, and Gerard F. Anderson The Oxford Handbook of Health Economics : Health Systems in Action
- World Health Report 2000.
- WHO and World Bank Resources

Semester 3-Concentration in Health Systems Management and Health Financing

Health Financing

Course Description
This course provide a broad understanding of health systems and processes through which public policy decisions are made in selected low, middle, and high-income countries.

Objectives
At the conclusion of the course, the student will be able to

- Understand the basic principles and practices of healthcare financing
- Demonstrate skills of health budgeting
- Critically analyze various health financing policy and systems

Contents

- Mechanism for financing in public health
    - General tax revenue
    - Social insurance
    - Voluntary insurance
    - Charitable donations
    - Out of pocket expenditure
- Public health care spending – past trends
- New projections of Public Health Spending – past trends
- The challenge of health care reform in advanced and emerging economics
- Role of the private sector in health care financing and delivery
- Health care reforms
    - Public health expenditure in Canada, Finland, Italy, Netherlands, Sweden, UK and USA
    - Challenges in reforming the Japanese healthcare systems

    - Public health spending through the market based health reform in Germany.
    - Healthcare reforms and challenges in emerging economies.

- Health Financing Policy and Analysis
- 3 pillars of Health Finance Policy

References

- Health Systems Policy, Finance, and Organization by Guy Carrin Kent Buse Kristian Heggenhougen Stella R. Quah
- The Health Financing Transition : A conceptual framework and empirical Evidence – Center for Global Development
- Addressing financial substantiality in health system by Sarah Thomson, Tom Founbister, Josep figueras, =Joseph kulzin, Govin ,permanand, Lucie Bryndova
- The Economics of The Public Health Care Reform in Advanced and Emerging Economics by Bendict Clements, David Loady and Sanjeev Gupta
- Health financing policy-A guide for decision makers, Joseph kutzin
- Understanding the health policy- A clinical approach by Thomas S Bodenheimer, Kevin Grumbach, Mc graw hill.
- Fundaments of health care finance by Louis G Gapenski.
- Health care finance and introduction to accounting and financial management by Louis G Gapenski
- The World Health Report 2000 health system improving performance world health organization (www. Who.int/whr/2000/en/whroo-en.pdf?ua=1)
- The World Health Report 2010: health system financing the pattern to universal coverage -WHO

Semester 3-Concentration in Environment and Occupational Health

Environment Health

Course Description
This course focuses and advanced practical aspects of Environmental health, especially comprehensive overview of air, water and sanitation as well as its effects on health of the community.

Objectives
At the conclusion of the course, the student will be able to

- Classify various sources of air and water pollution
- Identify health effects of air and water pollution
- Describe various methods to prevention of pollution
- Demonstrate the skills of risk assessment and measurement of air and water pollution.
- Describe Air and water quality management

Contents

Introduction: air composition

- Air pollution
- Scales of air pollution in rural and urban areas, regional and globally
- Characterizing air pollution
- Air quality
- Sources of air pollution
- Effects of air pollution on health
- Measurement and monitoring of air pollution
- Air pollution modeling
- Regulations of air pollution

Water

- **Water and its properties**
- Environmental Standards for Water Quality Protection
- Water pollution
- Sources of water pollution
- Concentration of particles, metals, and microbes
- Risk assessment

- Water quality standards and regulations
- Water treatment and pollution control

Sanitation

References

- Fundamentals of Air Pollution by Daniel Vallero
- Air Pollution and Global Warming: History, Science, and Solutions by Professor Mark Z. Jacobson
- Essential Environmental Health by Fries, Jones and Bartlett Publishers – 2007
- Living with the Earth- Concepts of Environmental Health Science- Gary S Morare- Lavis Publications
- Environmental Science- Toward a Sustainable future - Richard T Wright, Dorothy F Boors
- Environmental Health by Moeller D.W, Harward University press.
- Environmental Health: From Global to Local (Public Health/Environmental Health) by Howard Frumkin

Semester 3-Concentration in Environment and Occupational Health

Occupational Health and Safety

Course Description

This course provides theory and practical aspects of occupational and safety issues. Students will be able to explore the health and safety issues of various types of work. Students will gain an understanding of the current state of occupational safety and health globally including the enforcement of laws regulating occupational safety and health and the roles of all stake holders.

Objectives

At the conclusion of the course, the student will be able to

- Investigate current occupational safety and health problems and solutions

- Demonstrate the knowledge and skills needed to identify workplace problems and advance safe, healthy work for oneself or others

Contents

- Occupational Hazards and risks
    - Physical
    - Chemical
    - Biological
    - Psychosocial
    - Ergonomics harzards

- Principles of occupational safety and health
- Management of occupational safety and health
- Occupational diseases
    - Respiratory and cardiovascular
    - Occupational infections
    - Musculoskeletal disorders
    - Psychological and neurological disorders
    - Other health effects

Occupational health problems in various industries
    - Health

- Engineering
- Factories
- Entertainment
- Academics etc

Reference

Oxford handbook of occupational health

Fundamental Principles of occupational health and safety

MPH Third semester (Theory)

THEORY EXAMINATION

Duration: 3 Hrs Max Marks: 100

Distribution of Marks

Type of questions	No of questions for each subject	No. of questions and marks for each question	Total Marks
Long Essay	3	3x10	30
Short Essay*	10	10x5	50
Objective type	10	10x2	20

*students are required to attempt 10 out of the 12 short essays.

Project Work/Field Experience or Internship

Description

The field experience provides the students with a practical experience in a public health setting, where students can apply and integrate the skills and knowledge gained in theory.

Objectives

At the conclusion of the course, the student will be able to:

- Apply and integrate the skills and knowledge gained in theory.
- Gain hand on experience on public health practice: such as planning, organizational structure, community interaction, etc.
- Demonstrate the competency in public health practice.
- Demonstrate leadership, teamwork, creativity, communication skills in public health domain.

Contents

Each candidate pursuing MPH Course is required to carry out Project Work/field experience or internship on a selected topic under the guidance of a recognized post graduate teacher after the submission of project proposal.

The topic for the Project Work should be chosen based on an area of interest and should be done in a reputed organization as described in the University guidelines. The student should choose the organization for the project work in any place where they could work under the constant guidance of the academic advisor and project supervisor/field supervisor allotted. The aim of the project work is to enable the student to gain an in-depth insight into a particular department or topic chosen for study.

Project work guidelines

Every candidate who is interested in project work shall submit to the Registrar (Academic) of the University in the prescribed proforma, two hard copies of project proposal containing particulars of proposed project work within 6 months from the date of commencement of the course or on or before the date notified by the University. The project proposal shall be sent through proper channel.

The University shall register the Project topic. No change in the Project topic shall or guide shall be made without prior approval of the University.

The Project shall be written under the following headings:

- Introduction

- Aims or objectives of study
- Review of literature
- Materials and methods
- Results
- Discussion
- Conclusion
- Summary
- References
- Tables
- Annexure

The written text of Project shall not be less than 50 pages and shall not exceed 100 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should not be done. A declaration by the candidate that the work was done by him/her shall be included. The project supervisor, head of the department and head of the institution shall certify the bonafide of the Project.

Two copy of Project shall be submitted to the institution along with a soft copy (CD). The project reports need not be submitted to the University, however, when ever university desires to verify, the same shall be verified from the copy stored at the Institution. The project/research work shall be assessed and certified by the guide. After completion of the project, the student has to defend his project/research work in front of Project/research committee formed by the institution. The committee members shall include senior faculties from the Institution and shall be appointed as project or research committee members by the head of the institution. There shall be not less than three members in the project or research committee. Acceptance and clearing of the project/research work is a pre-requisite for a candidate to be eligible to appear in the final examination. For a project to be accepted a minimum of two-third of the committee members should approve the project/research work done by the candidate. If the candidate does not get approval from two-third of the committee members, then the candidate shall do the course correction or re-work on the project as suggested by guide and the committee members.

Acceptance of the Project is a pre-requisite for a candidate to be eligible to appear in the final examination.

Field Experience/Internship

All students have do a field experience/ practicum/ capstone project in any organization under the guidance of academic advisor and field supervisor.

Field experience/ internship is considered an important part of the academic curriculum, serving as a structured and significant educational experience that takes place in an agency, institution, or community in any developing or developed country, and under the supervision of Field Supervisors and the guidance of the student's Academic Advisor. The overall purpose of the field experience is to provide an opportunity for students to integrate theory and practice in a public health work environment. The student contributes to a community's resources and to

the solution of public health problems while developing personal confidence and leadership skills as a public health professional. While in work students could synthesize, hone skills and competencies in program design, implementation, management, and evaluation; research data collection, analysis, and reporting; and policy analyses and advocacy.

The field experience may include work in administrative, research, or clinical settings, or participation in ongoing health education, research, or program activities. The topics are individually selected and tailored to meet student needs. Decisions on the nature, location, objectives, and activities of the field experience are made through discussion and agreement among the student, academic advisor, and site/field supervisor.

Field experience guidelines

The supervised field experience / internship provide an opportunity for the students to gain valuable knowledge and experience in addition to class room teachings. The field experience can occur outside the college in any organization/agency working health care/public health or associated with any activity related to healthcare in any developing or developed country.

Objectives of Field Experience

- To provide the students with the opportunity to utilize knowledge and practice new skills that they have learned in their MPH course.
- To expose the students to real world public health practice and understand the organizational structure, program administration, planning, communication, community relationship, policy and any activities related to public health.
- To help the students to identify their professional competence and develop their areas of knowledge for further study.
- To demonstrate leadership, team work, communication skills and creativity for development of public health practice.

Time line for Field Experience

One semester

Field Experience Planning

- Plans for field experience would ideally begin immediately after completion of first semester, or minimum six month before the start of fourth semester.
- The field experience coordinator and academic advisor orients the students regarding the objectives and process of field experience.
- The student /Academic Advisor (AA) / Field Experience Coordinator (FEC) jointly identifies the field experience site that could be any government organization/ agency/organization/health care company working in public health or any work related to healthcare.
- A Learning Contract is signed between the college and the agency for placing students for their field experience. If the field

experience site is government department then a written permission letter from head of the department is sufficient.

While planning the students may want to think in these lines before planning their Field Experience

- What do I want to do after my degree in public health?
- What are the skills and knowledge needed to achieve my career goals?
- Where and how can I gain the required skills and knowledge that I wish to obtain?
- What the advantages and disadvantages in selecting the proposed field experience site.

- Then students' intending to pursue the field experience submits an application with objectives to the office of principal/field placements. Once the application is received the academic advisor and the student as well as field supervisor jointly discusses the objectives.

Revisions of Plan While in the Field

- Revisions to the initial FE Plan should be agreed to and submitted to the Academic Advisor and FE supervisor no later than the end of the second week of the placement.
- The students who fail to register their FE plan will have to work on the initial plan that was agreed.
- The FE Plan can be revisited and revised.
- If the FE moves in a different direction, the FE Plan can still be valid but the student must document any revisions, the reasons for the revisions and the results.
- If the student is unsure about progress, he/she needs to talk with the Field Supervisor, Academic Advisor.
- Everyone on the team shares a common goal—to help the student have a successful learning experience.

Guidelines for Field Experience Site Selection

- The field experience site can be any Government organization, Non government organization (NGO) or private company that is registered in their respective State or Country.
- The organization must have completed three years of existence from the date of registration.
- The organization must be working directly or indirectly in any area of public health or relevant to healthcare.
- The organization must have at least one person qualified in public health or developmental science or in health care.
- The organization must be able to put students under care of field supervisor who would be able to guide and spend time with

students regularly to achieve the objectives of the field experience as well as report to the AA.
- The organization must be a good match with the needs / interests of the student.
- Offers a uniquely valuable experience.

Field Experience Supervisor Traits

- She/he is a public health practitioner/ developmental science personnel/healthcare provider.
- Must be recognized as supervisor by the college or get himself recognized by submitting the latest CV and credentials
- She/he agrees to provide resources to the students for successful completion of their field experience/project.
- Monitor students through regular communication and in the field
- Provide regular feedback to the academic advisor regarding the performance of the student.
- Mentor students and introduce them to their organization and public health environment.
- Give students opportunities to learn new skills and knowledge.
- Allow students to participate in their projects/ organizational activities.

Roles and Responsibility

Field Supervisor
The host organization agrees to provide the Field Supervisor to oversee the student's FE. The Supervisor should have expertise in assigned project areas, experience and status within the organization, and an interest and competence in supervising and mentoring.

As a mentor, the Field Supervisor shares organizational values, experiences and contacts with the student to facilitate a successful FE and provides an orientation to the host organization and to the student's specific projects. This may include:

- Introducing the student to key people within the organization
- Help students in identifying the objectives and carryout activities related to his/her field experience plans.
- Provide current CV for approval from the college.
- Arranging informational meetings with key personnel in student's area of interest
- Providing information about the projects
- Reviewing organizational policies and procedures
- Familiarizing the student with office equipment and procedures
- Serving as a professional and local authority mentor and a linkage to others in the field
- Meeting with the student on a regular basis to discuss progress and provide guidance and feedback

- Coordinating activities that enable the student to meet goals set forth in the FE Plan
- Assessment performance

Academic Advisor (AA) and FE Coordinator

The Academic Advisor would be one of the internal faculties from the institute who is eligible to be the project guide.

- Advise students
- Carefully assess students' academic preparation, experience, and professional development to identify areas to address in the field experience
- Assist students in developing goals and objectives of field experience
- Contact and approve agencies for placement of students
- Consult with agency concerning student selection and placement to assure optimal match for agency and student
- Conference with student and site supervisor to monitor progress of student
- Act in consultation with Site Supervisor to prepare assessments and reports
- Keep individual student files for contracts, reports, logs, timesheets and plans
- Assist in debriefing process

Students

- Assume lead responsibility for identifying suitable field experience sites and supervisors. The field experience coordinator (FEC) or student's academic advisors can often recommend sites based on the student's goals and experience.
- The student should discuss these options with the FEC or their AA well before the intended field experience.
- Initiate the activities necessary for the completion of the Supervised Field Experience Application and Agreement (the agreement between the student, faculty advisor, site supervisor and FEC, and the affiliation agreement, if necessary).
- Contacts agency to confirm the placement
- Submit a proposal for the field experience to the faculty advisor before beginning the supervised field experience. The proposal should include the goals, objectives, and activities of the field experience and the responsibilities of the agency. The proposal must be developed jointly by the student, the advisor, and the site supervisor.
- Dresses professionally for role and responsibilities and cultural appropriateness during the international field experience
- Adheres to agency regulations
- Maintains professionalism, confidentiality, and ethical standard
- Keeps a record of time spent at the agency or agency related activities. Keeps a daily log of activities.

- Participates in professional and in-service activities at the site
- Organizes the mid-point conference call with Field Experience Supervisor, Academic Advisor and FEC
- Complete all required reports and assignments

Report

During the placement/field experience/ project work students are expected to keep a journal/ log book recording of their activities submit a report based on their experience (format mentioned in project report above). The report should include

- Description of activities performed during their field experience, along with any change or deviations from the FE Plans.
- What the students gained from the experience, identifying problems if they occurred.
- How much of their objectives were achieved.

Evaluation

The field supervisor evaluates the student's on-site performance. During the FE it is expected that there will be formal interaction between the academic advisor, field supervisor and student, more so between the academic advisor and field supervisor to discuss the student's progress.

The academic advisor along with the external evaluator will determine the final marks for the field experience /project work. This is based on the field supervisor's evaluation, the written journal/report and presentation defending the activity as well as any other relevant information.

Annexure: 1

Fundamental Course

The students from non health sciences background should mandatorily undergo training in the fundamental courses. The course introduces students to Basics of Human Anatomy and Physiology, Pathology & Microbiology and Medical Terminologies.

The courses can start before the first semester or during the first semester. Students shall complete the training in the said courses before the start of first semester examination. Clearing the Fundamental courses for non health sciences students is a prerequisite for appearing for first semester examination. There shall not be any university examination, but the institutions shall conduct the exams and intimate the same to University.

Fundamental Course 1

Human Anatomy and Physiology

Course description

This course provides basic concept and knowledge on Anatomy and Physiology. The course focuses on the basic biological concepts, structure and function of the human body and the mechanisms of maintaining homeostasis within it

Objectives
At the conclusion of the course, the student will be able to:

- Recognize body parts and functions.
- Demonstrate understanding of body mechanics
- Explain the structures and functions of different system of human body, relation to health and disease and actions

- Describe structures and functions of the cells, tissue, organ system, and types and their relation to each other as well as the physiological homeostasis.

Course Content

- **Introduction to Anatomy and Physiology**
    - Definition and braches of anatomy and physiology
    - Levels of structural organization and body systems
    - Characteristics of human
    - Basic anatomical terminologies
    - Cell: parts of cells
    - Tissue and its types
    - Organs and organ system
    - Cell division
- Integumentary system: structure and functions
- **Skeletal system**
    - Division of skeletal system
    - Types of bones
    - Joints- Classification and movements
- Muscular system
- Nervous System
    - Overview, organization and functions of nervous system
    - Neurotransmitters
    - Spinal cord
    - Brain and cranial nerves
- Sense organs: Anatomy and functions
- Endocrine system
- Cardiovascular system: organs and functions
- Blood
    - Functions, properties
    - Formation, components
    - Blood groups and types

- Respiratory system
- Digestive system
- Urinary system
- Reproductive system
- Metabolism
- Metabolic reactions: Catabolism and anabolism
- Metabolism of carbohydrate, proteins, lipid metabolism
- Basics of nutrition.

Reference

- Anatomy and Physiology by Tortora
- Anatomy and Physiology in Health and Illness by Anne Waugh and Allison Grant

Fundamental Course 2

Pathology and Microbiology

Course description

This course provides an introduction to the basic principles of Pathology, microbiology, virology, and parasitological. The students will get an overview of mostly basic aspects of general pathology and microbiology required for public health practice.

Objectives
At the conclusion of the course, the student will be able to:

- Describe cell and pathology involved in cell such as necrosis, gangrene etc.
- Demonstrate understanding of pathology involved in immune mechanisms
- Explain various types of sterilization and disinfection methods
- Discuss basic medical microbiological concepts
- Understand morphology , types and functions of various bacteria's, fungus and viruses
- Understand basic pathological conditions of various organ system of human body.

Course Content

- **Introduction to Pathology**
    - Pathology, braches of pathology
    - Cell Injury: Causes, pathogenesis of cell injury, types
    - Cell death,: Necrosis and Apoptosis
    - Gangrene, atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia
- Immune system
    - Organs and cells of immune system
    - Hypersensitivity reactions
- Homeostasis, Odema, dehydration, over hydration
- Disturbances of electrolytes and pH of Blood
    - Electrolyte imbalance
    - Acid-base imbalance
    - Haemodynamic derangements (e.g. hyperemia)
    - Haemorrhage, shock, thrombosis, embolism
    - Ischaemia and infarction
- Inflammation and Healing
    - Inflammation
    - Regeneration and repair
    - Healing
- Neoplasia
    - Characteristics,
    - Classification
    - Spread
    - Pathogenesis of cancer
- Introduction to microbiology
- Microscopy and staining techniques
- Bacteria: Morphology, physiology, types of bacteria
- Sterilization and Disinfection
    - Physical and Chemical agents

- Sterilization methods

- Infection
  - Sources of infection
  - Methods of transmission of infection
  - Types of infection
- Immunity
  - Types of immunity
  - Mechanism of immunity
  - Antigen and antibody
  - Structure and functions of immune system
  - Immune response
  - Hypersensitivity
  - Autoimmunity
- Virology
  - Properties of virus
  - Types of viruses
  - Viral interaction
  - Diagnosis of viral disease.
- Mycology: types
- Septicemia, bacteraemia, PUO
- Hospital acquired infection
- Hospital acquired infection, zoonosis

Reference

- Text book of Pathology by Harsh Mohan
- Text book of Microbiology by Ananthanarayan and Paniker

Fundamental Course 3

Medical Terminology

Course description

This course provides an introduction to the basics terminologies in health medical field.

Course Objectives

Objectives
At the conclusion of the course, the student will be able to:

- Understand basic terminologies used in health and medical field

Course Content

- Basic elements of medical words
- Suffixes
- Prefixes
- Body structure and anatomical terms
- Integumentary system
- Digestive system
- Respiratory system
- Cardiovascular system
- Blood, lymph and Immune system
- Musculoskeletal system
- Genitourinary system
- Reproductive system
- Endocrine system
- Nervous system
- Special Senses

Reference

- Medical Terminology Systems: *A body systems approach* by Barbara A Gylys and Mary Ellen Wedding
- Quick Medical Terminology by Shirley Soltesz Steiner