MASTER OF PUBLIC HEALTH
REGULATIONS AND CURRICULUM 2023

For candidates admitted from the academic year 2023-24

FACULTY OF MEDICAL AND HEALTH SCIENCES

SRM Institute of Science and Technology
(Deemed to be University u/s 3 of UGC Act, 1956)
Kattakulathur-603203
Chengalpattu Dist,
Tamil Nadu, India.

1. Short Title and Commencement

These regulations shall be called **'MASTER OF PUBLIC HEALTH** Regulations 2023', in short title **MPH** under SRM Institute of Science and Technology, Kattankulathur, Chengalpattu District, Tamil Nadu. This has been approved by the 52nd Academic Council meeting of SRM Institute of Science and Technology held on 22 July 2023. The regulations shall come into force for the candidates admitted from the academic year 2023-2024 onwards.

2. Eligibility

Candidates seeking admission to the MPH program shall be required to possess a "Bachelor's degree" in any discipline from a recognized university from India or abroad with a minimum of 55 % aggregate marks.

3. Duration of Programme

The MPH programme is a two-year full-time program which includes 4 semesters.

3.1 Maximum duration

The maximum duration to complete the program is n+2. The candidate should complete the degree within a maximum duration of 4 years from date of admission.

3.2 Medium of Instruction

English

4 Admission Procedures

4.2 Candidate who seeks admission can apply through online SRM IST portal: www.srmist.edu.in

4.3 The applicants would have to go through a process of selection for admission to the MPH Program. The Selection process includes an aptitude test, written essay type exam and an interview. Selection will be based on candidates' test score, previous academic performance, and relevant work experience if any. For international candidates and nominations from government, the management reserves the right to make selection on the basis of interview only.

4.4 After a candidate fulfils all requisite admission requirements stipulated for admission, an offer is made for admission.

4.5 **Registration and Enrolment:** After having cleared the selection process, candidates are enrolled when they produce required certificates and documents and make payment of the prescribed fees. This will be done at the office of the School of Public Health.

4.6 **Others**

Lap top: The candidates are required to have their own a laptop with statistical software. They are required to bring their laptop to the class every day for assignments and practical training.

*4.*7 **Readmission Procedures**

5 Commencement of Programme

The MPH programme commences in second week of July every academic year. It will be semester pattern.

No new admission will not be allowed after 31st August.

6 Structure of the MPH Programme

6.1. Working Days: There will be a minimum of 100 working days per semester

6.2. Faculty Mentor: Each student is affiliated to a faculty mentor for support in all academic matters

6.3. The MPH course follows modular pattern of teaching. The First year of the course is common for all the candidates and consists of two semesters. All candidates must successfully complete all modules.

6.4. In the Second year (third semester), the candidates will select any one of the specializations offered by the School of Public health.

The specializations currently offered are:

1. **Health Program Management**
2. **Health Economics**
3. **Health Communication**
4. **Emergency Preparedness and Disaster Management**

6.5 The third semester consists of course work in the chosen specialization. Candidates identify a topic of their interest and make an in-depth study of the topic and submit a dissertation.

6.6 In the fourth semester, the candidates will be attached to relevant organizations for internship for 4 months. The candidates will get involved in day-to-day functioning of the organization and get hands on experience of working on some technical work relevant in that organization. Upon return, the candidates will prepare a report describing the organisation and their work experience and make a presentation on the technical work they were involved in. This is followed by a viva voce. An Evaluation Committee of the School consisting of minimum one external and one internal faculty member would evaluate the candidates based on their presentation, internship report and viva voce.

7. Administration Committees

7.1 **Advisory Board** This board constituted by the Vice Chancellor would comprise of three external experts, the Dean SPH and one SPH faculty. One of the external experts would chair the Board. This would meet every three years to propose initiation of new courses, review existing curricula and training and research activities. This will advise for development and future directions of the school and submit the recommendations to the Vice Chancellor.

7.2 **Board of Studies:** Board of studies consists of a minimum of two academic experts in public health from outside and one within the university. This committee would meet as and when there is a need to revise or modify the curriculum. The board would review the curricula proposed by the dean SPH and if found suitable, will approve for placing it before the academic council.

8. Registration/ Enrolment Process

A candidate who seek admission can apply through online SRM IST portal www.srmist.edu.in

8.1 Students are enrolled after they pay the prescribed fees. Registration and enrollment will be done at the office of the School of Public Health. For a student to attend classes he/she has to complete both registration and enrolment. All students shall formally register for the courses every semester to undergo course work.

8.2 From the second semester onwards all students have to enroll on a specified day at the beginning of a semester. A student will be eligible for enrollment only if he/she satisfies Registration requirements and will be permitted to enroll only if he/she has cleared all dues to the University, Hostel, Library etc. up to the end of the previous semester, and he/she is not debarred for enrollment by a disciplinary action of the University.

The registration sheet contains the course number, course name, number of credits and category for each course taken in that semester. The student makes the choice of course in consultation with his/her Faculty advisor.

9. List of Courses

Course code	Name of Course	L	T	P	C
Semester – I					
PH23101T	Introduction to public health	1	1	0	2
PH23102T	Basic Epidemiology	2	2	0	4
PH23103T	Basic Biostatistics	2	2	0	4
PH23104T	Public Health Programs: An overview; Practical on searching information and preparing scientific write ups and making presentations	3	3	0	6
PH23105T	Demography	2	1	0	3

PH23106T	Health systems, health related policies, and laws/ acts; field visits (SC, PHC, CHC, DH, DHO)	3	2	0	5
VACSP02	Communication skills	-	-	-	-
	Total Learning Credits				**24**
Semester - II					
PH23201T	Introduction to health management	2	1	0	3
PH23202T	Introduction to health economics- cost-effective analysis, cost-benefit analysis, cost-utilisation and benefit incidence analysis	2	1	0	3
PH23203T	Introduction to environmental health	2	1	0	3
PH23204T	Introduction to health promotion and health communication	2	1	0	3
PH23205T	Research methodology	2	2	0	4
PH23206P	Practicum - designing and conducting a research study (including data collection in field) and report writing and presentation*	0	0	8	4
PH23207P	Data analysis using statistical software, practicum of data analysis*	0	0	8	4
VACSPH01	Fundamentals of Microsoft office	-	-	-	-
	Total Learning Credits				**24**
Semester – III					
Specialization: Health Program Management		**L**	**T**	**P**	**C**
PH23301T	Management of RMNCH+A + Nutrition programs	2	1	0	3
PH23302T	Management of communicable and non-communicable disease programs	2	1	0	3
PH23303T	Applied and field epidemiology	2	1	0	3
PH23304T	Health systems strengthening – HR/OB, strategy, HMIS and quality management	3	2	0	5
PH23305P	Practical- developing a proposal on an operations (action) research or intervention program*	0	0	8	4
PH23306P	Practical: dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**
Specialization: Health Economics					
PH23311T	Socio-economics determinants of health	1	1	0	2
PH23312T	Healthcare budget and financing- social cost benefit analysis	1	1	0	2
PH23313T	Application of economics in monitoring and evaluation	2	1	0	3
PH23314T	Software for health economics analysis	2	1	0	3
PH23315T	Econometric models in public health	2	2	0	4
PH23316T	Exploration of big health data	2	2	0	4
PH23317P	Practical: dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**
Specialization: Health Communication					
PH23321T	Introduction to Health Communication, types of communication	1	1	0	2
PH23322T	Strategic Communication in Health	1	1	0	2
PH23323T	Social media in healthcare	1	1	0	2
PH23324T	Information communicating to public, stakeholders, Journalists	2	2	0	4
PH23325T	Soft skills in effective communication	3	3	0	6

PH23326T	Public Health Informatics	1	1	0	2
PH23327P	Practical: dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**
Specialization: Emergency preparedness and disaster management					
PH23331T	Emergencies and disaster dimensions	2	1	0	3
PH23332T	Health Emergencies and Disaster management	2	2	0	4
PH23333T	Epidemic and Pandemic Preparedness and Response	2	2	0	4
PH23334T	Emergencies, humanitarian and incident response system	1	1	0	2
PH23335T	Geo spatial technologies in health emergencies and disasters	3	2	0	5
PH23336P	Practical: dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**
Semester – IV					
PH23401P	Internship / Project work	0	0	32	16
	Total Learning Credits				**16**

**There will be no university exam for these modules/ activities*

Sessions: There will be four sessions on all working days:

- Session I: 9:00 – 10:30
- Session II: 11:00- 12:30
- Session III: 13:30- 14:30
- Session IV: 14:30- 16:00

The candidates are required to remain present in the school from 9 AM to 4 PM on all working days. The session IV will be devoted to practical of computer skills or communication skills.

Attendance: A minimum of 75% attendance is a must in every module/ course to appear at the end semester examinations.

10. Discipline

Every student is required to maintain discipline and a respectable behavior both inside and outside the University campus and not to indulge in any activity that will tend to bring down the prestige of the University

11. Attendance

11.1 Attendance is the physical presence of the student in the class. It is a well observed fact that Students who score good grades are those who attend classes regularly. Therefore, the students must strive to attend all the classes without fail.

11.2 A student who has an attendance lower than 75% whatever may be the reason for the shortfall in attendance will not be permitted to sit for the examination both internal and external unless the student completes course work/assignment as suggested by the faculty in charge of the module/course in which the shortfall exists.

12. Condonation of Lack of Attendance

Condonation of shortage of attendance up to a maximum of 10% in the prescribed eligible attendance for admission to the University Examination rests with the discretionary power of the Vice Chancellor. For Valid reasons, a candidate lacking in attendance may submit an application in the prescribed form and remit the stipulated fee 15 days prior to the commencement of the theory examination. The Heads of the Institution should satisfy themselves on the reasonableness of the Candidate's request while forwarding the application with their endorsements to the Controller of Examination who would obtain the Vice-Chancellor's approval for admission of candidates to the University Examination.

13. Assessment Procedure – Tests and Examinations

From time to time, the Academic Council of the university will decide the system of tests and examinations in each semester. MPH course follows modular teaching and the assessment would be based on 50 %internal assessment and 50 % University examination.

S.No	Internal Assessment Tool	Marks (50)

IA 1	Class Participation/ Assignments/ Presentations / Seminars/ tests	25
IA 2	Class Participation/ Assignments/ Presentations / Seminars/ tests	25
	Total	50

14. END OF SEMESTER EXAMINATION

14.1 University examinations are conducted at the end of every semester.

14.2 Eligibility for appearance in semester exam the required attendance in all the courses.

14.3 **Theory:** There will be one end semester examination of 3 hours duration in each lecture based Course/module. The Semester exams are normally held in the following months of every Academic year.

Odd Semester Exams	Even Semester Exams
November/December	May/June

14.4 **Practical:** Since MPH is a field-based course in the community, Fieldworks and field related activities are considered to be practical for the course work credit calculations.

15. END OF SEMESTER EXAM PATTERN

The questions paper will uniformly cover all units of the subject as per curriculum.

Max Marks – 100 Marks **Hours: 3 Hours**

Part A: Answer any SIX questions (6x10=60 marks)

This part should have **Eight** questions and the students will answer any **SIX** questions. Student's knowledge will be tested along with her/ his Analytical ability. The answers should be 15-20 sentences long.

1.

2.

3.

4.

5.

6.

7.

8.

Part B: Answer any TWO questions (2x20=40 marks)

This part should have **Three** questions and the students will answer any **Two** questions. Student's knowledge in theory as well as in application will be tested in this part. The questions in this part may be a single question carrying twenty marks or it may have two questions each carrying ten marks. The answers for these ten marks should be in twenty five to thirty sentences.

1.

2.

3.

16. Evaluation Method:

The theory answer scripts are evaluated by an examiner who shall be internal or external from any recognized university other than SRMIST.

17. PASSING MINIMUM

To pass in any course it is mandatory that a student should get 50 % marks in the end semester examination and also 50% marks, overall, in the internal assessment and end semester marks put together.

Internal assessment	University Examination		Total (IA + 50% weightage of university Examination)	
50	Min	Max	Min	Max
	25	50	50	100

Course Code	Name of the Courses	Internal Assessment	University Examination		Total	
			Min	Max	Min	Max
Semester I						
PH23101T	Introduction to public health	50	25	50	50	100
PH23102T	Basic Epidemiology	50	25	50	50	100
PH23103T	Basic Biostatistics	50	25	50	50	100
PH23104T	Public Health Programs: An overview; Practical on searching information and preparing scientific write ups and making presentations	50	25	50	50	100
PH23105T	Demography	50	25	50	50	100
PH23106T	Health systems, health related policies, and laws/ acts; field visits (SC, PHC, CHC, DH, DHO)	50	25	50	50	100
VACSP02	Communication skills**	-	-	-	-	-
Semester – II						
PH23201T	Introduction to health management	50	25	50	50	100
PH23202T	Introduction to health economics- cost-effective analysis, cost-benefit analysis, cost-utilisation and benefit incidence analysis	50	25	50	50	100
PH23203T	Introduction to environmental health	50	25	50	50	100
PH23204T	Introduction to health promotion and health communication	50	25	50	50	100
PH23205T	Research methodology	50	25	50	50	100
PH23206P	Practicum - designing and conducting a research study (including data collection in field) and report writing and presentation*	50	25	50	50	100
PH23207P	Data analysis using statistical software, practicum of data analysis*	50	25	50	50	100
VACSPH01	Fundamentals of Microsoft office	-	-	-	-	-
Specialization: Health Program Management (Semester III)						
PH23301T	Management of RMNCH+A + Nutrition programs	50	25	50	50	100
PH23302T	Management of communicable and non-communicable disease programs	50	25	50	50	100
PH23303T	Applied and field epidemiology	50	25	50	50	100
PH23304T	Health systems strengthening – HR/OB, strategy, HMIS and quality management	50	25	50	50	100
PH23305P	Practical- developing a proposal on an operations (action) research or intervention program*	50	25	50	50	100
PH23306P	Practical: dissertation including field work*	50	25	50	50	100

Specialization: Health Economics (Semester III)						
PH23311T	Socio-economics determinants of health	100	-	-	50	100
PH23312T	Healthcare budget and financing- social cost benefit analysis	50	25	50	50	100
PH23313T	Application of economics in monitoring and evaluation	50	25	50	50	100
PH23314T	Software for health economics analysis	50	25	50	50	100
PH23315T	Econometric models in public health	50	25	50	50	100
PH23316T	Exploration of big health data	50	25	50	50	100
PH23317P	Practical: dissertation including field work*	50	25	50	50	100

Course Code	Name of the Courses	Internal Assessment	University Examination		Total	
			Min	Max	Min	Max
Specialization: Health Communication (Semester III)						
PH23321T	Introduction to Health Communication, types of communication	100	-	-	50	100
PH23322T	Strategic Communication in Health	50	25	50	50	100
PH23323T	Social media in healthcare	50	25	50	50	100
PH23324T	Information communicating to public, stakeholders, Journalists	50	25	50	50	50
PH23325T	Soft skills in effective communication	50	25	50	50	100
PH23326T	Public Health Informatics	50	25	50	50	100
PH23327P	Practical: dissertation including field work*	50	25	50	50	100
Specialization: Emergency preparedness and disaster management (Semester III)						
PH23331T	Emergencies and disaster dimensions	50	25	50	50	50
PH23332T	Health Emergencies and Disaster management	50	25	50	50	50
PH23333T	Epidemic and Pandemic Preparedness and Response	50	25	50	50	50
PH23334T	Emergencies, humanitarian and incident response system	50	25	50	50	50
PH23335T	Geo spatial technologies in health emergencies and disasters	50	25	50	50	50
PH23336P	Practical: dissertation including field work*	50	25	50	50	50

Semester IV – Internship						
Course Code	Name of the Courses	Internal Assessment	University Examination		Total	
			Min	Max	Min	Max
PH23401P	Internship / Project work	50	-	-	50	100

**Value added courses: Is an audit course

18. Promotion credential

18.1. He / She can carry all the subject to the next higher semester till the final semester

18.2. The student should have registered for the previous semester examinations and attended at least one of the semester Examinations conducted by the University.

18.3. In case the student does not meet the above requirements he/she shall follow the re-admission procedure of the university

19. Project Work / Internship Report

19.1. Project work / Internship shall be carried out during the IV semester of the MPH course under the supervision of a faculty supervisor/guide from the school allotted by the Dean. In addition to this one supervisor/guide for the field organization / Institution would be identified as an external guide in consultation with the internal supervisor

19.2. The Project work / Internship shall be pursued for 6 months. The topic and design of the Project Report / Internship Report would be developed with the help of internal and external guides.

19.3. One hard bound and soft copy of dissertation report would be submitted after duly signed by both the supervisor(s) to the Dean, School of Public Health, SRMIST.

The evaluation of the project/Internship will be based on the report and a viva voce examination on the project.

19.4. Successful completion of the Internship will determine the completion of the IV semester. In the likelihood of the evaluation committee not being satisfied with the Project/ Internship work, an extension of 3 months will be mandated at the end of which the student will have to defend his/her work in front of the evaluation committee. Unsatisfactory performance once again will result in repeating the IV semester. Such recommendations will be communicated to the Controller of Examinations.

20. PROJECT/INTERNSHIP MARKS ALLOCATION

S.No	Assessment Tool	Marks(100)
1	Internship monthly progress reports	20
2	Internship Presentation	50
3	Internship Report	30
	Total	**100**

20.1. The deadline for submission of final project / Internship report would be communicated before leaving for the field work.

20.2. If a candidate fails to submit the project report / Internship report on or before the specified deadline, he / she is deemed to have failed in the project work /internship and shall re-enroll for the same in a subsequent semester after obtaining permission from the Dean, SPH, SRMIST.

21. Grading of Students

Letter Grades and Grade Points (GP) are earned by the student for each course based on the aggregate of marks obtained through internal assessments and end semester final examination. The letter grades and the corresponding grade points as recommended by UGC, are as follows.

Letter Grade	Grade Points	Range of Total Marks
0 (Outstanding)	10	91 to 100
A+ (Excellent)	9	81 to 90
A (Very Good)	8	71 to 80
B+ (Good)	7	61 to 70
B(Above average)	6	56 to 60
C (Average)	5	50 to 55
F (Fail)	0	<50 Failure due to insufficient marks in the course
Ab (Absent)	0	Failure due to non-appearance in examination

21.1 A student is considered to have successfully completed a course and earned the credits if he/she secure a letter grade other than 'F' or 'Ab' in that course. A letter grade 'F' or 'Ab' in any course implies a failure to have completed the course.

21.2 A course successfully completed cannot be repeated

22. Grade Card

22.1. The grade card issued by the Controller of Examinations to each student, after the announcement of the result will contain the following:

a. The credits for each course registered for that semester.

b. The letter grade obtained in each course

c. The total number of credits earned by the student up to the end of the semester in each of the course categories

d. The Semester Grade Point Average (SGPA) and the Cumulative Grade Point Average (CGPA) of all the courses taken from the I semester onwards.

Computation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)

22.2 SGPA will be calculated according to the formula:

$$\frac{\sum_1^n C_i\,(GP)_i}{\sum_1^n C_i}$$

Where C_i = credit for the i^{th} course, $(GP)_i$= the grade point obtained for the i^{th} course n = total number of courses and the sum is over all the course taken in that semester, including those in which the student has secured F grades.

b. CGPA (Cumulative Grade Point Average) is calculated using:

$$CGPA = \frac{\sum_1^r S_i\,(SGPA)_i}{\sum_1^r S_i}$$

Where S_i= sum of credit in i^{th} semester, $(SGPA)_i$= semester Grade Point Average earned i^{th} semester and r = number of semesters and the sum is over all the semesters under consideration.

c. The SGPA and CGPA shall be rounded off 2 decimal points and reported in the transcripts.

22.3 Class/Distinction will be awarded to the students after they successfully complete the MPH Programme as per the norms stipulated in the following table:

Category	CGPA (From I - IV Semesters)	Class/ Distinction
Students who successfully completed the MPH programme within the time duration of 4 semesters	≥5.0 &<6.0	Second Class
	≥6.0 &<7.5	First Class
	≥7.5 & ≤10.0 (without F or temporary Withdrawal in any semester)	First Class with Distinction.
	≥7.5 & ≤10.0 (with F in any semester but obtained pass grade (O to C) subsequently	First Class
Students who cannot complete the MPH programme in 4 semesters but complete it successfully within 5 semesters	≥5.0 &<6.0	Second Class
	≥6.0 & ≤10.0	First Class
Students who cannot complete the MPH programme in 4 semesters but complete it successfully within the maximum duration	≥5.0 & ≤10.0	Second Class

23. Re-evaluation Of Answer Scripts

Re- evaluation of answer scripts will be allowed as per University regulations.

24. Change of Regulations

Any regulation can be modified by the Academic Council of SRM Institute of Science and Technology once in every 3 years.

ACADEMIC CURRICULA

POSTGRADUATE DEGREE PROGRAMMES

Master of Public Health

Two Years (Full-Time)

Learning Outcome Based Education

Academic Year

2023 – 2024

FACULTY OF MEDICINE AND HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)
Kattankulathur, Chengalpattu District 603203, Tamil Nadu, India

MASTER IN PUBLIC HEALTH

1. Department Vision Statement	
Stmt - 1	***Leadership for equitable, sustainable and holistic health***

2. Department Mission Statement	
Stmt - 1	*Create thought leaders and change makers for public health*
Stmt - 2	*Design appropriate holistic and sustainable programs*
Stmt - 3	*Converge multi-disciplinary efforts to make a difference*
Stmt – 4	*Be guided by the values of LEAPS (Leadership, Ethics, Accountability, Perseverance and Sensitivity)*

3. Program Education Objectives (PEO)	
PEO - 1	*Development in chosen profession and or progress towards an advance degree*
PEO - 2	*The trust and respect of other public health professionals as effective and ethical members*
PEO - 3	*A reputation as a source of innovative public health solutions to complex public health issues*
PEO - 4	*The core competencies will lead to achieve zero harm in any disasters*
PEO - 5	*To conceptualize design, conduct and analyses public health Research/ data*

4. Consistency of PEO's with Mission of the Department

	Mission Stmt. - 1	Mission Stmt. - 2	Mission Stmt. - 3	Mission Stmt. - 4	
PEO - 1	H	H	H	H	
PEO - 2	H	H	H	H	
PEO - 3	H	H	H	H	
PEO - 4	H	H	H	H	
PEO - 5	H	H	H	H	

H – High Correlation, M – Medium Correlation, L – Low Correlation

5. Consistency of PEO's with Program Learning Outcomes (PLO)

	Program Learning Outcomes (PLO)														
	1. Disciplinary Knowledge	2. Critical Thinking	3. Problem Solving	4. Analytical Reasoning	5. Research Skills	6. Team Work	7. Scientific Reasoning	8. Reflective Thinking	9. Self-Directed Learning	10. Multicultural Competence	11. Ethical Reasoning	12. Community Engagement	13. ICT Skills	14. Leadership Skills	15. Life Long Learning
PEO - 1	H	H	M	H	H	H	H	M	L	M	H	H	M	H	M
PEO - 2	H	H	M	H	H	H	H	M	L	M	H	H	M	H	M
PEO - 3	H	H	M	H	H	H	H	M	L	M	H	H	M	H	M
PEO - 4	H	H	M	H	H	H	H	M	L	M	H	H	M	H	M
PEO - 5	H	H	M	H	H	H	H	M	L	M	H	H	M	H	M

H – High Correlation, M – Medium Correlation, L – Low Correlation

6. Programme Structure (90 Total Credits)

1. Professional Core Courses (C)

Code	Course Title	Hours/Week			
		L	T	P	C
PH23101T	Introduction to public health	1	1	0	2
PH23102T	Basic Epidemiology	2	2	0	4
PH23103T	Basic Biostatistics	2	2	0	4
PH23104T	Public Health Programs: An overview; Practical on searching information and preparing scientific write ups and making presentations	3	3	0	6
PH23105T	Demography	2	1	0	3
PH23201T	Introduction to health management	2	1	0	3
PH23202T	Introduction to health economics- cost effective analysis, cost benefit analysis, cost utilization and benefit incidence analysis	2	1	0	3
PH23203T	Introduction to environmental health	2	1	0	3
PH23204T	Introduction to health promotion and health communication	2	1	0	3
VACSP02	Communication skills	1	1	0	2
VACSPH01	Fundamentals of Microsoft office	1	1	0	2

2. Professional Elective Courses (PE)

Code	Course Title	Hours/Week			
		L	T	P	C
PH23301T	Management of RMNCH+A +nutritious programs	2	1	0	3
PH23302T	Management of communicable and non-communicable disease programs	2	1	0	3
PH23304T	Health systems strengthening – HR/OB, Strategy, HMIS and Quality management	3	2	0	5
PH23311T	Socio-economics determinants of health	1	1	0	2
PH23312T	Healthcare budget and financing	1	1	0	2
PH23313T	Application of economics in monitoring and evaluation	2	1	0	3
PH23316T	Exploration of big health data	2	2	0	4
PH23321T	Introduction to Health Communication, types of communication	1	1	0	2
PH23322T	Strategic Communication in Health	1	1	0	2
PH23324T	Information Communicating to Public, stakeholders, Journalists	2	2	0	4
PH23331T	Emergencies and disaster dimensions	2	1	0	3
PH23332T	Health Emergencies and Disaster management	2	2	0	4
PH23334T	Emergencies, humanitarian, and incident response system	1	1	0	2
PH23333T	Epidemic and pandemic preparedness and responses	2	2	0	4
PH23323T	Social media in healthcare	1	1	0	2
PH23303T	Applied and field epidemiology	2	1	0	3

3. Skill Enhancement Courses (S)

Code	Course Title	Hours/Week			
		L	T	P	C
PH23207P	Data analysis using statistical software, Practicum of data analysis*	0	0	8	4
PH23314P	Software for health economics analysis	2	1	0	3
PH23305P	Practical-developing a proposal on operations (action) research or intervention program	0	0	8	4
PH23315T	Econometric models in public health	2	2	0	4
PH23325T	Soft skills in Effective communication*	3	3	0	6
PH23326T	Public Health Informatics	1	1	0	2
PH23335T	Geo spatial technologies in health emergencies and disasters	3	2	0	5

4.Mandatory

Code	Course Title	Hours/Week			
		L	T	P	C
PH23106T	Health systems, and health policies, and laws/ acts, and field visits (SC, PHC, CHC, DH, DHO)	3	2	0	5
PH23205T	Research methodology	2	2	0	4
PH23206P	Practicum - designing and conducting a research study (including data collection in field)	0	0	8	4

	and report writing and presentation*				

5. Project Work, Internship In Industry / Higher Technical Institutions (P)

Code	Course Title	Hours/Week			
		L	T	P	C
PH23306P	Practical: dissertation including field work*	0	0	8	4
PH23317P	Practical: dissertation including field work*	0	0	8	4
PH23327P	Practical: dissertation including field work*	0	0	8	4
PH23336P	Practical: dissertation including field work*	0	0	8	4
PH23401P	Internship/project work	0	0	32	16
PH23402P	Dissertation and viva	0	0	16	8

7. Implementation Plan

Semester - I

Code	Course Title	Hours/Week			
		L	T	P	C
PH23101T	Introduction to public health	1	1	0	2
PH23102T	Basic Epidemiology	2	2	0	4
PH23103T	Basic Biostatistics	2	2	0	4
PH23104T	Public Health programs: An overview; practical on searching information and preparing scientific write-ups and making presentations	3	3	0	6
PH23105T	Demography	2	1	0	3
PH23106T	Health systems, Health related policies, and laws/ acts ; field visits (SC, PHC, CHC, DH, DHO)	3	2	0	5
VACSP02	Communication Skills	1	1	0	**2**
	Total Learning Credits				**26**

Semester - II

Code	Course Title	Hours/Week			
		L	T	P	C
PH23201T	Introduction to health management	2	1	0	3
PH23202T	Introduction to health economics-cost effective analysis, cost benefit analysis, cost utilization and benefit incidence analysis	2	1	0	3
PH23203T	Introduction to environmental health	2	1	0	3
PH23204T	Introduction to health promotion and health communication	2	1	0	3
PH23205T	Research methodology	2	2	0	4
PH23206P	Practicum - designing and conducting a research study (including data collection in field) and report writing and presentation*	0	0	8	4
PH23206P	Data analysis using statistical software, practicum of data analysis*	0	0	8	4
VACSPH01	Fundamental of Microsoft office	1	1	0	2
	Total Learning Credits				**26**

Semester - III (Health Program Management)

Code	Course Title	Hours/Week			
		L	T	P	C
PH23301T	Management of RMNCH+A + nutritious Programs	2	1	0	3
PH23302T	Management of communicable and of non-communicable disease programs	2	1	0	3
PH23303T	Applied and field epidemiology	2	1	0	3
PH23304T	Health systems strengthening – HR/ OB, strategy, HMIS and Quality management	3	2	0	5
PH23305P	Practical-Developing a proposal on an operations (action) research or intervention program*	0	0	8	4
PH23306P	Practical : Dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**

Semester - III (Health Economics)

Code	Course Title	L	T	P	C
PH23311T	Socio-economics determinants of health	1	1	0	2
PH23312T	Healthcare budget and financing-Social cost benefit analysis	1	1	0	2
PH23313T	Application of economics in monitoring and evaluation	2	1	0	3
PH23314T	Software for health economics analysis	2	1	0	3
PH23315T	Econometric models in public health	2	2	0	4
PH23316T	Exploration of big health data	2	2	0	4
PH23317P	Practical: dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**

Semester - III (Health Communications)

Code	Course Title	Hours/Week			
		L	T	P	C
PH23321T	Introduction to Health Communication, Types of Communication	1	1	0	2
PH23322T	Strategic Communication in Health	1	1	0	2
PH23323T	Social media in Healthcare	1	1	0	2
PH23324T	Information Communicating to Public, stakeholders, Journalists	2	2	0	4
PH23325T	Soft Skills in Effective communication	3	3	0	6
PH23326T	Public Health Informatics	1	1	0	2

Semester - III (Emergency preparedness and disaster management)

Code	Course Title	Hours/Week			
		L	T	P	C
PH23331T	Emergencies and disaster dimensions	2	1	0	3
PH23332T	Health Emergencies and Disaster management	2	2	0	4
PH23333T	Epidemic and Pandemic Preparedness and Response	2	2	0	4
PH23334T	Emergencies, humanitarian and incident response system	1	1	0	2

PH23327P	Practical: dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**

PH23335T	Geo spatial technologies in health emergencies and disasters	3	2	0	5
PH23336P	Practical: dissertation including field work*	0	0	8	4
	Total Learning Credits				**22**

Semester - IV					
Code	**Course Title**	**L**	**T**	**P**	**C**
PH23401	Internship/Project Work	0	0	32	16
PH23402P	Dissertation and viva	0	0	16	8
	Total Learning Credits				**20**

8. Program Articulation Matrix

Course Code	Course Name	Program Learning Outcomes														
		Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
PH23101	Introduction to public health	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23102	Basic Epidemiology	H	M	M	M	M	M	M	M	H	M	M	M	L	M	L
PH23103	Basic Biostatistics	H	H	H	H	H	H	H	H	H	H	H	H	M	H	M
PH23104	Maternal and child health, and nutrition, and field visits (ASHA, Anganwadi centre)	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23105	Demography and family planning	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23106	Health systems, and policies, and laws/ acts, and field visits (SC, PHC, CHC, DH, DHO)	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23201	Introduction to health management	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23202	Introduction to health economics	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23203	Introduction to environmental health	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23204	Introduction to health communication and health promotion	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23205	Research methods & Practicum - designing and conducting a research study (including data collection in field) and report writing and presentation*	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23206	Data analysis using statistical software, practicum of data analysis*	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23301	Management of RMNCH+A programs	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23302	Management of communicable disease programs	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23303	Management of non-communicable disease programs	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23304	Health systems strengthening -HR/OB, HMIS and Quality management	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23305	Practicum: data analysis using statistical software*	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23311	Socio-economics determinants of health	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23312	Healthcare budget and financing	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23313	Application of economics in monitoring and evaluation	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23314	Software for health economics analysis	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M

PH23315	Econometric models in public health	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23316	Exploration of big health data	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23321	Introduction to Health Communication	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23322	Strategic Communication in Health	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23323	Health Journalism	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23324	Communicating Data for the Lay Public, stakeholders, Journalists	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23325	Software of Effective communication	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23326	Public Health Informatics	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23331	Emergencies and disaster dimensions	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23332	Health Emergencies and Disaster management	H	M	M	M	M	M	M	M	M	H	M	M	L	M	M
PH23333	Epidemic and Pandemic Preparedness and Response	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23334	Emergencies, humanitarian and incident response system	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23335	Geo spatial technologies in health emergencies and disasters	H	H	H	H	H	H	H	H	M	L	L	L	H	H	M
PH23341	Practical: dissertation including field work*	H	H	M	M	H	H	M	H	M	L	M	L	M	H	M
PH23401	Internship	H	H	M	M	H	H	M	H	M	L	M	L	H	H	M

H – High Correlation, M – Medium Correlation, L – Low Correlation

Course Code	PH23101T	Course Name	INTRODUCTION TO PUBLIC HEALTH	Course Category	C	Professional Core	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	To understand concepts of health and public health
CLR-2 :	To understand how public health is different from medical care
CLR-3 :	To know major public health programs and key players
CLR-4 :	To know job opportunities in public health

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning			Program Learning Outcomes (PLO)													
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
CLO-1 :	Describe dimensions and determinants of health	1	75	70	L	H	-	H	L	-	-	-	L	L	-	H	-	-
CLO-2 :	Understand public health – key features; how it is different from medical care	2	85	75	M	H	L	M	L	-	-	-	M	L	-	H	-	-
CLO-3 :	Familiarise with major public health problems in India and national health programs	3	75	70	M	H	M	H	L	M	-	-	M	L	-	H	-	-
CLO-4 :	Know major players in public health	3	85	80	M	H	M	H	L	M	-	-	M	L	-	H	-	-
CLO-5 :	Know job opportunities in public health and skills required	3	80	75	H	H	M	H	L	-	-	-	M	L	-	H	-	-

Duration (hour)		Introduction to health (3)	Introduction to public health (3)	Major public health problems (3)	Major players in public health (3)	Job opportunities in public health (3)
S-1	SLO	Define health	Define public health	Know major public health problems in India; concept of dual burden of diseases	Know major players in public health-government, NGOs, international organisations	Know job opportunities in public health
S-2	SLO	Explain dimensions of health; discuss role of poverty and gender in health	Explain key features of public health	Familiarise with national health programs	Know large donor funded public health programs	Understand requirement of health organisations
S-3	SLO	Understand how health of communities is measured	Understand how public health is different from medical care	Understand the concept of Global public health	Exercise	Understand role of health managers, public health professionals

Learning Resources	1. Park's Textbook of Preventive and Social Medicine 24th/2017. Banarsidas Bhanot publication 2. Public Health and Community Medicine Rajvir Thalwar. First edition-AFMC & WHO, 2009 3. Equity, Social Determinants and Public Health Programs, -Blas.E.,Kurup. A.S.-WHO, 2012	4. Health & Environment, The WHO-UNEP Health and Environment Linkages Initiative (HELI) 5. Baum, F. The New Public Health. Melbourne, Oxford University Press 4th ed, 2015

Learning Assessment						
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**
		CLA – 1 (25%)		**CLA – 2(25%)**		
		Theory	**Practice**	**Theory**	**Practice**	**Theory**
Level 1	**Remember** / **Understand**	20%	20%	15%	15%	15%
Level 2	**Apply** / **Analyze**	30%	10%	20%	20%	20%
Level 3	**Evaluate** / **Create**	10%	10%	15%	15%	15%
	Total	**100 %**		**100 %**		**-**

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Jayaprakash Muliyil, ICMR scientific advisory committee, jpmuliyil@gmail.com	1. Dr. Shyamkumar/ Dr Suman	1. Dr. Hari Singh, SRIMST

Course Code	PH23102T	Course Name	BASIC EPIDEMIOLOGY	Course Category	C	Professional Core	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards		Nil	

Course Learning Rationale(CLR):	*The purpose of learning this course is to:*
CLR-1 :	*Study about the health system in India*
CLR-2 :	*Compare and contrast the health care models used by global economies*
CLR-3 :	*Learn about the alternative and complementary systems of medicine in India*
CLR-4 :	*Understand various health care standards and its evaluation*
CLR-5 :	*Get exposure to understand the health-related policies and programs as well as to understand the theoretical frameworks and concepts used in policy analysis and acquire the talent for health policy planning and evaluation*

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Promote Epidemiological thinking in public health practice	1	85	80
CLO-2 :	Utilize Epidemiological enquiry for solving health care issues	3	85	75
CLO-3 :	Monitor and evaluate national disease control programmes on epidemiological indicators	2	80	70
CLO-4 :	Critique current disease control and prevention strategies for Infectious and non-communicable diseases	2	75	80
CLO-5 :	Undertake Risk factor surveillance, control and prevention programme	2	80	75

Programme Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
M	H	-	H	M	L	-	L	M	L	M	H	-	M
H	H	L	M	L	-	L	-	H	L	-	H	-	-
M	L	M	H	L	-	-	-	M	L	-	H	-	-
M	H	M	M	M	H	-	-	M	L	-	H	-	-
H	H	M	H	L	-	L	-	M	L	-	H	-	-

Duration (hour)		Introduction and principles of epidemiology (12)	Epidemiological measures and public health impact (12)	Epidemiological study designs (12)	Principles of clinical epidemiology (12)	Disease surveillance and field epidemiology (12)
S-1	SLO	To define History of epidemiology	To understand Measurements in epidemiology	Introduction to epidemiological study designs	Overview on Concepts in clinical epidemiology	To learn Surveillance in Communicable diseases
S-2	SLO	Describe Evolution of epidemiology	To learn Measurements in mortality	To describe Hierarchy of epidemiological study design	To explain Types of validity	To discuss Surveillance in non-communicable diseases
S-3	SLO	To define Association	To understand Tools of measurement	To explain Observational studies	To elaborate Reliability methods	Discussion on Epidemic
S-3	SLO	To understand Causation	To explain Direct standardization	To define Cross sectional studies	To discuss Type one and type two errors	Review on WHO Pandemic levels
S-4	SLO	To Enumerate Epidemiological triad	To explain Indirect standardization	To discuss Experimental studies	To learn Serial testing	Describe Control measures in epidemic and pandemic

Duration (hour)		Introduction and principles of epidemiology (12)	Epidemiological measures and public health impact (12)	Epidemiological study designs (12)	Principles of clinical epidemiology (12)	Disease surveillance and field epidemiology (12)
S-4	SLO	Elaborate on Measures of association	To learn Measurement in morbidity	Case study on Experimental studies	To describe Parallel testing	Classify Prevention methods
S-5	SLO	To understand Measures of causation	Practical session to calculate morbidity indicators	To explain Case control design	Relate Combined sensitivity and specificity	To learn Preparedness
S-6	SLO	To elaborate Bradford hill criteria for causal evaluation	To understand Incidence and prevalence measures	To explain Cohort design	To learn Natural course of disease	State Response
S-7	SLO	Application of Bradford hill criteria	A case study on calculating incidence and prevalence rate	To understand Randomized control trial	Introduction to disease surveillance and field epidemiology	To understand Zoonotic diseases
S-7	SLO	Application of epidemiological logic	To learn Types of bias	To discuss Bias in Randomized control trial	To elaborate Outbreak investigation	To define One Health
S-8	SLO	To elaborate Natural history of disease	To discuss Measurement of bias	To understand Ecological studies	Application of steps in Outbreak investigation	To learn Planetary Health
S-9	SLO	To define Spectrum of disease	To understand Risk measures	To describe Qualitative study design	Assessment on outbreak investigation	Overview on Emerging diseases
S-10	SLO	To learn Concepts of disease occurrence	To define Measures of impact	Case study on Qualitative study design	To learn Principles of disease surveillance	Overview on Reemerging diseases
S-11	SLO	To describe Analytic epidemiology	To enumerate Bias and its impact on validity	Developing a study protocol for various study designs	To explain Public Health surveillance	Case Study on various study designs
S-12	SLO	To explain Epidemic disease occurrence	To enumerate Confounding in epidemiological studies	To discuss Advantages and limitations of various study designs	Enumerate Types of surveillance	Review on disease surveillance

Learning Resources	1. Epidemiology Leon Gordis, 5th Ed. Saunders Philadelphia 2014 2. Basics of Epidemiology, Bonita &Beaglehole. 2nd Edition -WHO, 2007 3. Friis RH, Sellers TA. Epidemiology for public health practice, 4th edit. Boston: Jones & Bartlett Publisher, 2009	4. Clinical epidemiology the essentials. -Fletcher, Robert H., Suzanne W. Fletcher, Edward H. Wagner.LWW; Fifth edition-Lippincott Williams & Wilkins, 2014 5. An Introduction to Public Health and Epidemiology -Susan Carr, Nigel Unwin, Tanja Press-Mulloli, Second Edition. -Open University Press, 2007 6. Epidemiology, Bio statistics & Preventive medicine -James F. Jekal, David L Katz, Joann 7. G Elmore, Dorothea Wild, 4th edition. -W.B. Saunders Company publishers, 2013

Learning Assessment						
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)
		CLA – 1 (25%)		CLA – 2 (25%)		
		Theory	Practice	Theory	Practice	Theory
Level 1	Remember	15%	15%	15%	15%	20%
	Understand					
Level 2	Apply	15%	20%	20%	20%	20%
	Analyze					
Level 3	Evaluate	20%	15%	15%	15%	10%
	Create					
	Total	100 %		100 %		-

Course Designers		
Experts from Industry	**Experts from Higher Technical Institutions**	**Internal Experts**
1. Dr. Jayaprakash Muliyil, ICMR scientific advisory committee, jpmuliyil@gmail.com	1. Dr. Vijay Gopichandran. ESIC Medical College and PGIMSR, vijay.gopichandran@gmail.com	1. Dr. Alex Joseph, SRMIST

Course Code	PH23103T	Course Name	BASIC BIOSTATISTICS	Course Category	C	Professional Core	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	*Understand the importance of Biostatistics in health care research*
CLR-2 :	*Learn basic concepts of Descriptive analysis such as central tendency, dispersion*
CLR-3 :	*Learn different inferential analysis techniques*
CLR-4 :	*Presenting the data in the form of graphs, charts and tables*
CLR-5 :	*Use statistical packages for data analysis*

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning 1 Level of Thinking (Bloom)	Learning 2 Expected Proficiency (%)	Learning 3 Expected Attainment (%)
CLO-1 :	*Compute measures of central tendency (Mean, Median, and Mode) and variability (Variance, Standard Deviation).*	3	95	75
CLO-2 :	*Calculate and interpret confidence intervals and P – value for population means and proportions*	3	90	80
CLO-3 :	*Perform and interpret one-sample, two-sample, and paired t tests on means*	3	90	75
CLO-4 :	*Presenting the graphs, charts and tables to communicate the results of statistical analyses for decision making purpose.*	2	90	85
CLO-5 :	*Perform, present, and interpret basic statistical analyses using SPSS*	2	90	80

	Programme Learning Outcome (PLO) 1 Fundamental Knowledge	2 Application of Concepts	3 Link with Related Disciplines	4 Procedural Knowledge	5 Skills in Specialization	6 Ability to Utilize Knowledge	7 Skills in Modeling	Analyze, Interpret Data	9 Investigative Skills	10 Problem Solving Skills	11 Communication Skills	12 Analytical Skills	13 Professional Behavior	14 Life Long Learning
CLO-1 :	H	H	H	H	H	H	H	H	M	H	M	H	M	M
CLO-2 :	H	H	H	H	H	H	H	H	M	H	M	H	M	H
CLO-3 :	H	H	H	H	H	H	H	H	M	H	M	H	M	H
CLO-4 :	H	H	H	H	H	H	H	H	M	H	M	H	M	H
CLO-5 :	H	H	H	H	H	H	H	H	M	H	M	H	M	H

Duration (hour)		Fundamentals of Biostatistics (12)	Probability and Sampling (12)	Statistical Inference I (12)	Statistical Inference II (12)	Correlation and Regression (12)
S-1	SLO-1	*Understand definition of statistics and its uses*	*Explain Probability concepts*	*Restate concepts of statistical inference*	*Illustrate Parametric tests and its assumptions*	*Able to classify Correlation and types*
S-2	SLO-1	*List types of Statistical Methods*	*Able to define mutually exclusive, equally likely, exhaustive, independence events*	*Able to restate Point and interval estimation*	*To analyses tests on single proportion*	*Prepare a Scatter plot*
S-3	SLO-1	*concepts of Populations and Samples and sampling procedures*	*Able to explain and evaluate laws of probability, problems*	*Construct and evaluate confidence intervals for single mean*	*testing on two proportions test*	*Able to calculate and interpret Pearson correlation*

Duration (hour)		Fundamentals of Biostatistics (12)	Probability and Sampling (12)	Statistical Inference I (12)	Statistical Inference II (12)	Correlation and Regression (12)
S-4	SLO-1	*Explain Sources and collection of data*	*Describe Bayes theorem, and its applications*	*fitting confidence intervals for single group proportion*	*simple applications of single mean & proportion*	*calculate and interpret spearman rank correlation*
S-5	SLO-1	*Recall Types and Classification of Data, Measurement Scales*	*Reciprocated various Probability distributions and types*	*Reproduce and develop Hypothesis and its types*	*Able to test two mean comparisons*	*problem solving exercises*
S-6	SLO-1	*List types of variables and recall Organization of Data*	*Explain Binominal and Poisson distribution*	*Define Type of errors (α, β)*	*Able to test two proportion comparison*	*test of significance of correlation*
S-7	SLO-1	*Prepare Frequency Distribution and dramatise Graphic Methods*	*Explain and evaluate Normal distribution, its properties*	*Distinguish and define one tail, two tail test, p value*	*Describe ratio of two variances*	*Able to test simple linear regression*
S-8	SLO-1	*Explain various descriptive Statistics, define, uses and its types*	*Evaluate central limit theorem applications*	*Explore and generalize statistical tables and interpretations*	*Able to test on attributes*	*fitting line and properties, assumptions*
S-9	SLO-1	*Estimate Measures of Central tendency, types, advantage and disadvantages*	*Differentiate sampling distributions*	*Able to understand large & sample test of significance*	*problem solving exercises*	*Restate regression coefficients and its properties*
S-10	SLO-1	*Estimate -Measures of Dispersion, types, advantage, and disadvantages*	*Evaluate various Standard errors*	*Able to construct all the steps of test of hypothesis*	*Understand concepts of Analysis of more than 2 groups*	*test of significance of regression*
S-11	SLO-1	*Estimate - Measures of Skewedness, Kurtosis, concepts and interpretation*	*Create sampling distributions of two groups mean*	*Explain various test of significance methods*	*calculate and interpret One way ANOVA*	*calculate and interpret other types of correlations*
S-12	SLO-1	*Express Measures of concepts and interpretation*	*Evaluate sampling distributions of two groups proportion*	*Define and validate power, statistical& clinical inference*	*calculate and interpret Two-way ANOVA*	*Predict and interpret multiple linear regressions*

Learning Resources	1. *Biostatistics Student solutions manual: A foundation for analysis in the health sciences; Wanye W Daniel, 9th Ed, Wiley Series,2011.* 2. *Introduction to Biostatistics and Research Methods; PSS Sundar Rao, Richard J, PHIV Learning Ltd 2006*	3. *Essentials of Biostatistics in Public Health, Lisa M Sullivan 2nd Ed, 2009.* 4. *High yield Biostatistics, Epidemiology and Public Health, Anthony N Glaster, 4th Ed, Lippincott Williams and Wilkins, 2013.*

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	20%	20%	15%	15%	15%	15%
	Understand						
Level 2	Apply	20%	20%	20%	20%	20%	20%
	Analyze						
Level 3	Evaluate	10%	10%	15%	15%	15%	15%
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Mrs. Thilagavathy, Scientist B, ICMR, Bangalore	*1. Dr. Thenmozhi, Lecturer, Dept of Biostatistics, CMC, Vellore*	*1. Dr.H. Gladius Jennifer, Asso.Prof,SRMIST* *2. Dr.M. Prakash, Asst. Prof,SRMIST*

Course Code	PH23104T	Course Name	PUBLIC HEALTH PROGRAMS: AN OVERVIEW; PRACTICAL ON SEARCHING INFORMATION AND PREPARING SCIENTIFIC WRITE UPS AND MAKING PRESENTATIONS	Course Category	C	*Professional Core*	L	T	P	C
							3	3	0	6

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning			Program Learning Outcome (PLO)													
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	Leadership Skills	Life Long Learning
CLO-1 :	*Understand government programs on RMNCH+A*	*3*	*85*	*80*	*H*	*L*	*-*	*-*	*M*	*H*	*-*	*H*	*M*	*-*	*H*	*M*	*L*	*M*
CLO-2 :	*Understand public health programs on communicable diseases*	*3*	*85*	*80*	*H*	*L*	*-*	*-*	*M*	*H*	*-*	*H*	*M*	*-*	*H*	*M*	*L*	*M*
CLO-3 :	*Understand public health programs on NCDs*	*3*	*85*	*80*	*H*	*L*	*-*	*-*	*M*	*H*	*-*	*H*	*M*	*-*	*H*	*M*	*L*	*M*
CLO-4 :	*Understand other programs related to public health*	*3*	*85*	*80*	*H*	*L*	*-*	*-*	*M*	*H*	*-*	*H*	*M*	*-*	*H*	*M*	*L*	*M*
CLO-5 :	*Understand nutrition related programs*	*3*	*85*	*80*	*H*	*L*	*-*	*-*	*M*	*H*	*-*	*H*	*M*	*-*	*H*	*M*	*L*	*M*

Duration (hour)		Introduction to RMNCH+A programmes	Introduction to communicable disease programs	Introduction to non-communicable disease programs	Other public health problems	*Public Health Nutrition*
		9	9	9	9	9
S-1	SLO-1	*RMNCHA: historical context*	*Revised national TB control program*	*Non-communicable diseases: an overview and concept of risk factors*	*Road traffic accidents*	*Understand role of Nutrition in infancies* *Learn about Nutrition in Pregnant and Nursing Mothers*
S-2	SLO-1	*List and Learn Goals and Targets and components*	*Leprosy elimination campaign*	*Diabetes control program*	*Mental health program*	*PEM*
S-3	SLO-1	*Maternal mortality*	*Vector borne diseases control program*	*Cardiovascular disease control program*	*Geriatric health*	*Anaemia*
S-4	SLO-1	*Child mortality*	*Disease surveillance program*	*Cancer control program*	*Do bite and animal bite*	*Vitamin A deficiency*
S-5	SLO-1	*Adolescent health*	*HIV/AIDS*	*Blindness control program*	*Poisoning*	*Discuss: National Iodine Deficiency Disorder Control Program*
S-6	SLO-1	*Immunisation program*	*Emerging diseases*		*Drawning*	*Review the Mid-day meals and its impact in Education and Health sectors*

Learning Resources	1. *A strategic approach to Reproductive, Maternal, Newborn, Child and Adolescent Health in India, Ministry of Health and Family Welfare 2013*	2. *Innovation in Maternal health, Case studies from India. Jay K Satia et al. Sage Publications , 2014* 3. *Adolescent and Youth reproductive Health in India, SD Gupta, ICMR 2005.*

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100 %	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
Ms. Dhivya Yeleswarapu	*1 Dr. Sundari Ravindran*	*Dr. Geetha Veliah*
		Dr. Bharathi Palanisamy

Course Code	PH23105T	Course Name	DEMOGRAPHY	Course Category	C	*Professional Core*	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards		Nil	

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	*Learn Population Science to understand public health issues in macro frame work that consists of concepts, population composition, change measures and population theories*
CLR-2 :	*Familiarise with public health related data for demographic research and its sources*
CLR-3 :	*Understand and practice of data analysis techniques, demographic measures of fertility and mortality, methods of data standardisation, construction of life tables and population projections*
CLR-4 :	*Provide knowledge on demographic transition, theories of fertility, mortality, migration and urbanization concepts and theories*
CLR-5 :	*Enhance the skill of analysing public health issues and assessment, intervention, monitoring and evaluation as well as study the global health and development indicators in terms of its context of formation, definition, data source and interpretation*

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning			Program Learning Outcomes (PLO)														
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
CLO-1 :	Analyse the demographic composition of population as well as the causes and consequences of population change	3	85	80	*H*	*H*	*M*	*M*	*M*	*L*	*M*	*H*	*H*	*L*	*M*	*L*	*M*	*L*	*H*
CLO-2 :	Identification of appropriate data sources, the availability of data, it features including advantages and limitations	3	85	80	*M*	*H*	*H*	*M*	*H*	*L*	*M*	*H*	*H*	*L*	*M*	*L*	*H*	*L*	*H*
CLO-3 :	Analyse data quality and perform various demographic analysis with/without software	3	85	80	*H*	*H*	*H*	*H*	*H*	*L*	*H*	*H*	*H*	*L*	*L*	*L*	*H*	*L*	*H*
CLO-4 :	Project the populations with assumptions, construct and analyse the life tables and also estimate other demographic indicators	3	85	80	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*H*	*M*	*L*	*L*	*L*	*H*	*L*	*H*
CLO-5 :	Identify the public health issues, problem assessment, give suggestions for intervention and consequent monitoring and evaluation as well as able to understand the relevance of global health and development indicators, its data availability, estimation and interpretation	3	85	80	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*H*	*M*	*L*	*M*	*M*	*H*	*M*	*H*

Duration (hour)		Introduction to Population Science and Theories	Population Data and sources	Mortality and Fertility Concepts	Demographic Transition, Aging and Development	Family Planning Program
		12	12	12	12	12
S-1	SLO-1	To understand Scope of Demography	To know the types of secondary data	To understand the concept and definitions of –Fecundity - fertility	To outline the demographic transition - concepts and theory	History of India's family planning program
	SLO-2		To familiarise with population Census	To know the measures of fertility		
S-2	SLO-1	To know Population growth - implications of rapid population growth	Class Presentation about Census India; History, Operation and organogram, Schedules, Data series, Use and limitations of Census data	To outline the determinants for fertility	To know the demographic dividend or disaster	Key features of FP program
	SLO-2					
S-3	SLO-1	To Recognise Population structure	To define registration of vital events	To explain the fertility reduction strategies	Class presentation: To illustrate the demographic transition in India (i) Change in birth and death rates (2) Change in population growth (3) Change in the shape of age pyramid (4) Change in health and healthcare requirement (1/2)	Thrust areas of FP program
	SLO-2					
S-4	SLO-1	Practical Session: To construct age pyramid (1/2)	To understand the sample surveys - Sample registration system	Class Presentation: To demonstrate (1) Determinants of fertility in India (2) Fertility reduction strategies – (3) Fertility trends – (4) Fertility disparities	To understand the concept of labour force	Type of contraceptive
	SLO-2					
S-5	SLO-1	Practical Session: To construct age pyramid (2/2)	To know the quality of data- (Age heaping)	To know the Mortality - measures and methods	To know the concept of urbanization	Reversible methods
	SLO-2					
S-6	SLO-1	To review the factors affecting population	To familiarise with Whipple's Index, Myers Index	To estimate Life tables (1/2)	To understand the measurements of urbanisation	Terminal methods
	SLO-2					
S-7	SLO-1	Class Presentation: To present the factors affecting population in India	To understand the re sampling – bootstrapping – jack-knifing - cross-validation	To estimate Life tables (2/2)	Class Presentation: To illustrate (1) Changes in labour force in India (2) Type of labourers (3) Historical trends in urbanisation in India (4) Differences in migration pattern	New methods
	SLO-2					
S-8	SLO-1	To understand the components of population change	To know – the Case studies	Practical Session: To Construct life tables (1/2)	To define the migration - concepts	exercise
	SLO-2					

Duration (hour)		Introduction to Population Science and Theories	Population Data and sources	Mortality and Fertility Concepts	Demographic Transition, Aging and Development	Population Projections and Estimations
S-9	SLO-1	To know the world population trends and forecasts	Practical session: To estimate the Whipple Index and Myer's Index (1/2)	Practical Session: To Construct life tables (2/2)	To realize the migration theories	Exercise
	SLO-2					
S-10	SLO-1	Class Presentation: To demonstrate the Population change and forecast for India	Practical session: To estimate the Whipple Index and Myer's Index (2/2)	To familiarise with the mortality surveillance – strategies	To recognise the conceptual frame work on migration and health (1/2)	Exercise
	SLO-2					
S-11	SLO-1	To understand the population theories (1/2)	To know the DHS, SRS, NFHS, RCH, NSSO (1/2)	Class presentation: To present the mortality in India, (1) Mortality transition (2) Factors of mortality reduction (3) Mortality difference (4) Mortality related data	To recognise the conceptual frame work on migration and health (2/2)	Exercise
	SLO-2					
S-12	SLO-1	To understand the population theories (2/2)	Class Presentation: Candidates will bepresenting each data from its sources, contents as well as merits and limitations	To know the standardization methods	Class Presentation: To explain (1) Migration trends in India (2) Composition and disparities in current migration (3) Migrants and health in India (4) Factors of migration (5) Migrants, employment and remittance	Class test/Internal assignment submission
	SLO-2					

Learning Resources	1. *Asha A. Bhenda and Tara Kanitkar, "Principles of Population Studies", 21st edition. - Himalaya Publishing House, 2011* 2. *Srinivasan, K, "Demographic Techniques"-Registrar General of India (RGI), Census of India and UNFPA, 2011* 3. *Kathryn Dean, "Population Health Research: Linking theory and methods", Second Edition-Sage, 2003*	4. *Registrar General of India, "Census of India 2001and 2011", (RGI) - RGI-Online* 5. *Registrar General of India, Population projections for India and states-RGI, 2006 RGI* 6. *Mishra B. D, An Introduction to the Study of Population. -Second edition, -South Asian Publishers Pvt. Ltd, 1995*

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember	20%	20%	15%	15%	15%	15%
	Understand						
Level 2	Apply	20%	20%	20%	20%	20%	20%
	Analyze						
Level 3	Evaluate	10%	10%	15%	15%	15%	15%
	Create						
	Total	**100 %**		**100 %**		**100 %**	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. U.V. Somayajulu, Sigma Research and Consulting	*1. Prof. K S James, IIPS, Mumbai, ksjames@iips.net*	*1. Dr. Benson Thomas M, SRMIST*
2. Dr. Francis Zavier, Population Council, fzavier@popcouncil.org	*2. Dr. Srinivas Goli, JNU, New Delhi, srinivasgoli@mail.jnu.ac.in*	*2. Dr. Selvamani Y, SRMIST*

Course Code	PH23106T	Course Name	HEALTH SYSTEMS,BHEALTH RELATED POLICIES, AND LAWS/ ACTS ; FIELD VISITS (SC, PHC, CHC, DH, DHO)	Course Category	M	Mandatory Courses	L	T	P	C
							3	2	0	5

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	Study about the health system in India
CLR-2 :	Compare and contrast the health care models used by global economies
CLR-3 :	Learn about the alternative and complementary systems of medicine in India
CLR-4 :	Get exposure to understand the health-related policies and programmes as well as to understand the theoretical frameworks and concepts used in policy analysis and acquire the talent for health policy planning and evaluation

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	*Demonstrate an understanding about the India's health systems*	*3*	*85*	*80*
CLO-2 :	*To know about AYUSH and indigenous systems of medicine*	*3*	*85*	*80*
CLO-3 :	*To know major health related policies*	*3*	*85*	*80*
CLO-4 :	*To know major health related laws and acts*	*3*	*85*	*80*
		3	*85*	*80*

Program Learning Outcomes (PLO)														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
H	*H*	*M*	*M*	*H*	*M*	*M*	*H*	*H*	*L*	*L*	*L*	*M*	*L*	*H*
H	*H*	*M*	*M*	*H*	*M*	*H*	*H*	*H*	*L*	*L*	*L*	*M*	*L*	*H*
H	*H*	*H*	*H*	*H*	*M*	*M*	*H*	*H*	*L*	*L*	*L*	*H*	*L*	*H*
H	*H*	*H*	*H*	*H*	*M*	*H*	*H*	*H*	*L*	*M*	*L*	*H*	*L*	*H*
H	*H*	*H*	*H*	*H*	*M*	*H*	*H*	*M*	*L*	*M*	*L*	*M*	*M*	*H*

Duration (hour)		Health systems in rural areas	District and state health systems	Alternate systems of medicine	Health related policies	Health related laws and acts
		6	10	8	15	15
S-1	SLO-1	Role and responsibilities of ASHA worker	Structure and functions of district health office	To discuss about home-based care	To describe national health policy	To understand MTP act, PNDT act
	SLO-2					
S-2	SLO-1	Structure and functions of sub centre and PHC	Structure and functions of state health system	To know Indigenous systems of medicine	To describe national population policy	To summarise drugs and cosmetic act
	SLO-2					
S-3	SLO-1	Structure and functions of CHC	Role of national health ministry and GDHS	AYUSH	Other health related policies	To summarise epidemic management act and other acts
	SLO-2					

Learning Resources	1. *David H. Peters, Abdo S. Yazbeck, Rashmi R. Sharma, G. N. V. Ramana, Lant H. Pritchett and Adam Wagstaff, 2002, "Better Health Systems for India's Poor: Findings, Analysis, and Options" -World Bank* 2. *GOI, 2006, "Indian Public Health Standards", National Health mission, Ministry of Health and Family Welfare -Government of India* 3. *Dina Balabanova, Martin McKee, Anne Mills, 2011, "Good Health at Low cost: 25 years on" what makes a successful health system?": London School of Hygiene & Tropical Medicine, London* 4. *WHO, "Health Policy and Systems Research A Methodology Reader" by AHSPR of WHO https://www.who.int/alliancehpsr/resources/alliancehpsr_abridgedversionreaderonline.pdf* 5. *Mills, A, 2014," Health Care Systems in Low- and Middle-Income Countries", New England Journal of Medicine, 370 (6), 552-55* 6. *Hafner, T. & Shiffman, J, 2013, "The emergence of global attention to health systems strengthening" Journal on Health Policy and Planning, 28 (1), 41-5*	7. *Shakariskvili, G, Atun, R., Hsiao, W., Burgess, C., &Lansang, M, 2010, "Converging health system frameworks: towards a concepts-to-actions roadmap for health systems strengthening in low- and middle-income countries", Global Health Governance, Volume III, No.2 (SPRING,2010), http://www.ghgj.org* 8. *Balabanova, D., McKee, M., Mills, A., Walt, G., & Haines, A., 2010, "What can global health institutions do to help strenghten health systems in low-income countries?" Journal on Health Research Policy and Systems, 8, (1), 22* 9. *De Savigny, D., & Adam T, 2009, "System Thinking for Health Systems Strengthening", Geneva Alliance for Health Policy and Systems Research;* 10. *Pratt B & Hyder A, 2015, "Global Justice and Health Systems Research in Low- and Middle-Income Countries", Journal of Law, Medicine & Ethics, 43 (1), 143-161* 11. *O'Donnell O, 2007, "Access to health care in developing countries: breaking down demand side barriers" Cadernos de saudepublica. 2007; 23:2820-34* 12. *https://www.who.int/alliance-hpsr/resources/en/* 13. *https://health-policy-systems.biomedcentral.com/*

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	20%	20%	15%	15%	15%	15%
	Understand						
Level 2	Apply	20%	20%	20%	20%	20%	20%
	Analyze						
Level 3	Evaluate	10%	10%	15%	15%	15%	15%
	Create						
	Total	100 %		100 %		100 %	

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. *Mr. Jaykrishnan Menon, Applied Wonder, Bangalore*	1. *Prof D. Narayana, India Health Economics and Policy Association (IHEPA), narayanadelampady@gmail.com*	*1. Dr. Benson Thomas M*
2. *Dr. Mohan.V, MD, PhD Mohan Diabetes Research Foundation, Chennai*	2. *Dr. Godwin S K, University of Kerala & IHEPA, godwinsk@yahoo.com*	*2. Dr. Selvamani Y, SRMIST*
		3. Dr. Hari Singh, SRMIST

Course Code	PH23201T	Course Name	INTRODUCTION TO HEALTH MANAGEMENT	Course Category	C	Professional Core	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	To learn and understand the scientific bases of public health
CLR-2 :	To understand concept of project management
CLR-3 :	To develop skills to plan and design a health program
CLR-4 :	To develop skills to set up a system for monitoring and supervision of a health program
CLR-5 :	To develop skills to evaluate a health program

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	***Learning***		
		1	*2*	*3*
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Describe steps of project management	*1*	*85*	*75*
CLO-2 :	Understand steps of implementing a health program	*2*	*90*	*80*
CLO-3 :	Develop skills to set up a system for supervision and monitoring of a health program	*3*	*85*	*75*
CLO-4 :	Develop skills to evaluate a health program	*2*	*80*	*70*
		2	*80*	*70*

Program Learning Outcomes (PLO)													
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*M*	*M*	*M*	*L*	*M*	*M*	*-*	*M*	*H*	*M*	*-*	*H*	*M*
H	*M*	*M*	*M*	*H*	*H*	*M*	*-*	*H*	*H*	*M*	*-*	*H*	*H*
M	*M*	*M*	*M*	*H*	*H*	*M*	*-*	*M*	*L*	*M*	*-*	*H*	*M*
H	*M*	*M*	*L*	*M*	*M*	*M*	*-*	*M*	*M*	*M*	*-*	*M*	*H*
M	*H*	*M*	*M*	*H*	*H*	*M*	*-*	*M*	*H*	*H*	*-*	*M*	*M*

Duration (hour)		Designing a health program (3)	Implementing a health program (3)	Monitoring and Supervision (3)	Evaluating a health program (3)	Developing a proposal for a health program (3)
S-1	**SLO-1**	Project management cycle	Listing activities for implementation	Understanding concepts of monitoring and supervision	Understanding concept of evaluation – how this is different from monitoring	Understanding the components of a proposal
S-2	**SLO-1**	Community diagnosis	Preparing a Gantt chart	Setting up a system for monitoring and supervision of a health program	Developing a plan to evaluate a health program	Designing a program for a health promotion intervention
S-3	**SLO-1**	Developing strategies to tackle a health problem in a community	Preparing a budget for a health program	Exercise	Exercise	Developing a proposal for funding

Learning Resources	1. Park's Textbook of Preventive and Social Medicine 24th/2017. Banarsidas Bhanot publication 2. Public Health and Community Medicine Rajvir Thalwar. First edition-AFMC & WHO, 2009 3. Equity, Social Determinants and Public Health Programs,-Blas.E.,Kurup. A.S.-WHO, 2012	4. Health & Environment, The WHO-UNEP Health and Environment Linkages Initiative (HELI) 5. Baum, F. The New Public Health. Melbourne, Oxford University Press 4th ed, 2015

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	20	15	15	10	20	15
Level 2	Apply Analyze	20	25	20	20	15	20
Level 3	Evaluate Create	10	10	15	20	15	15
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Jayaprakash Muliyil, ICMR scientific advisory committee, jpmuliyil@gmail.com	1. Dr. Vijay Gopichandran. ESIC Medical College andPGIMSR, vijay.gopichandran@gmail.com	1. Dr. Hari Singh, SRMIST
		2. Dr Dhivya

Course Code	PH23202T	Course Name	INTRODUCTION TO HEALTH ECONOMICS- COST-EFFECTIVE ANALYSIS, COST-BENEFIT ANALYSIS, COST UTILIZATION ANALYSIS, AND BENEFIT INCIDENCE ANALYSIS	Course Category	C	Professional Core	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*	Learning
CLR-1 :	*Learn the health economics concepts, theories and methods applicable in the sphere of healthcare and everyday economic problems*	1
CLR-2 :	*Impart the economic evaluation techniques used in the field of public health*	
CLR-3 :	*Understand how to use empirical evidence to evaluate the public health related economic problems*	
CLR-4 :	*Create ability to critically evaluate government policies and programmes through economic theory*	
CLR-5 :	*Understand concepts of healthcare financing, various sources of financing, its advantages and limitations as well as to provide the training in the aspects of health care financing to analyze the financial status of different health systems and health services*	

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	*Have a good understanding of how economic theory and methods are applied in the health care sector and the financing of health services in different systems*	*3*	*85*	*80*
CLO-2 :	*Have the ability to make use of the scientific literature as well as identify the strengths and weaknesses in theoretical and empirical works in the perspective of economics*	*3*	*85*	*80*
CLO-3 :	*Ability to perform the application of economic evaluation on healthcare interventions/programs and other related issues*	*3*	*85*	*80*
CLO-4 :	*Enhanced conceptual clarity on healthcare financing, sources of finance, approaches, and methods*	*3*	*85*	*80*
CLO-5 :	*Have a good empirical understanding about various health systems are organized and financed by central government, public and private care providers as well as to have ability to critically analyze the applicability and impact of public health policies and interventions*	*3*	*85*	*80*

Program Learning Outcomes (PLO)														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
H	*H*	*H*	*H*	*H*	*L*	*M*	*H*	*H*	*L*	*L*	*L*	*M*	*L*	*H*
H	*H*	*H*	*M*	*H*	*L*	*M*	*H*	*H*	*L*	*L*	*L*	*M*	*L*	*H*
H	*H*	*H*	*H*	*H*	*L*	*H*	*H*	*H*	*L*	*L*	*L*	*H*	*L*	*H*
H	*H*	*H*	*H*	*H*	*M*	*H*	*H*	*M*	*L*	*L*	*L*	*H*	*L*	*H*
H	*H*	*H*	*H*	*H*	*L*	*H*	*H*	*H*	*L*	*M*	*M*	*L*	*L*	*H*

Duration (hour)		Fundamentals of Health Economics	Demand and Supply for Health Care Services	Techniques of economic evaluation	Health Care Financing Concepts	Health Financing Models
		10	12	12	12	14
S-1	SLO-1	To familiarise with the introduction to health economics	To understand the determinants of demand -supply and costs of production- Marginal Cost analysis	To know the principles and application of economic evaluation in health care	To describe the strategizing and prioritizing within scarce resources (decision making)	To understand the supply side and demand side financing - General Revenue-Based Systems
	SLO-2	To understand the key concepts of economics - micro and macroeconomics- opportunity cost		To understand the Formulation of an evaluation	To recognize 'How much we are spending'	
S-2	SLO-1	To know the goods and services in public health- merit good- public good or social good	To recognise the catastrophic payments - Equity and equality	To illustrate the types of economic evaluation - cost benefit analysis (CBA) - optional appraisal	*Class Presentation: To demonstrate the Trends in Per-capita healthcare expenditure in the World, India and States*	To know the Universal health coverage and role of health care financing
	SLO-2					
S-3	SLO-1	Class Presentation: To demonstrate the concepts used in the health economics	To know the Health outcomes - Market concept	To prepare the Cost-consequences analysis (CCA)	To know the three functions of health financing	Discussion: To illustrate the Universal Health Coverage by WHO, Universal Health Coverage in India
	SLO-2					
S-4	SLO-1	To outline the actors and institutions in health care- Informational asymmetry and concept of agency	Class Presentation: To Demonstrate the (i) Health Equity and Equality in the world (ii) Disparities in health and causing factors in India (iii) Remedial measures against health iniquity	To produce the Cost-effectiveness Analysis (CEA)	To analyse the types of Financing- (a) General revenue – (b) Insurance	To describe the Social Health Insurance - Community Health Insurance
	SLO-2					
S-5	SLO-1	To illustrate the supplier induced demand - Monopolies and incomplete market	To understand the concept of demand--Need and demand-elasticity of demand	To employ the Cost-utility analysis (CUA)	(c) Community financing – (d) Out of pocket Payment and (e) User fee	To describe the Private Health Insurance
	SLO-2					
S-6	SLO-1	Class Presentation: To demonstrate the types of supplier induced demand models in healthcare market	To know the demand for health and health services	To compute the Benefit Incidence Analysis (BIA)	To analyze the (g) External sources of finance	Class Presentation: To present the Health Insurances in India (Government, Private, Community, Employees funded etc.)
	SLO-2					
S-7	SLO-1	To know concept of Efficiency- Technical efficiency	To recognise the concept of Supply- Analysing supply and supply shifters	Practical Session: To demonstrate the CBA, CCA, CEA, CUA & BIA	Class Presentation: To illustrate Trends in the types of healthcare financing	To know the resource allocation - Organization of resource allocation
	SLO-2					
S-8	SLO-1	To describe the cost-effective efficiency	To familiarise with the elasticity of supply - Supply of health services	Class Presentation: To demonstrate the CBA, CCA, CEA, CUA & BIA	To know the Concept of Equity	To know the provider payment methods - Hospital Payment Method -Contracting
	SLO-2	Allocative efficiency				

Duration (hour)		Fundamentals of Health Economics	Demand and Supply for Health Care Services	Techniques of economic evaluation	Health Care Financing Concepts	Health Financing Models
S-9	SLO-1	Practical Session: To illustrate the efficiency estimation in healthcare	Interaction of supply and Demand	To understand the measurement of health benefits in terms of QALYS and related measures	To outline What Is Risk-Pooling and Why Is It Needed?	To understand the effect of payment systems on patients
	SLO-2					
S-10	SLO-1	Practical Session: To illustrate the efficiency estimation in healthcare	To know the effective allocation of society's resources	To prepare Disability Adjusted Life Years (DALY)	To understand the Levels of Risk-Pooling	To recognise the Market model - market failure
	SLO-2					
S-11	SLO-1		To understand the consumers' and Producer's surplus	To produce Healthy Years Equivalent (HYE) and Disability Free Life Expectancy (DFLE)	To explain the Contracting in - contracting out	To analyse the roles and limitations of markets in health care
	SLO-2					
S-12	SLO-1		To recognise the issues in the interactions of supply and demand in health care days	Class Presentation: To demonstrate (i) Trends in DALY for India (ii) Disparities in DALY by sub-population (iii) DALY by causes	Discussion: To demonstrate the impact of healthcare cost in developing countries, causes and remedial strategies	Discussion: To demonstrate the Health financing models by different countries
	SLO-2					
S-13	SLO-1					Class test/Internal assignment submission
	SLO-2					
S-14	SLO-1					Class test/Internal assignment submission
	SLO-2					

Learning Resources	1. *Guinness, D., & Wiseman, V, 2011, "Introduction to health economics" (2nd ed) Berkshire: Open University Press.* 2. *Dakin, H, Devlin, N, Feng, Y, Rice, N, O'Neill, P, and Parkin, D., 2015, "The Influence of Cost-Effectiveness and Other Factors on NICE Decisions" Health Economics, 24, 1256–1271. doi: 10.1002/hec.3086.* 3. *Drummond, M.F., Sculpher, M.J., Claxton, K., Stoddart, G.L. and Torrance, G.W., 2015, "Methods for the Economic Evaluation of Health Care Programmes", Oxford University Press*	4. *Murray, Christopher J L et al, 2012, "Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010", The Lancet, Volume 380, Issue 9859, 2197 – 22234.* 5. *Mauskopf J., Rutten F, Schonfeld W., 2003, Cost-Effectiveness League Tables: Valuable Guidance for Decision Makers? Pharmaco Economics, 21:991-1000*

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100 %	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Mr. Jaykrishnan Menon, Applied Wonder, Bangalore	*1. Prof D. Narayana, India Health Economics and Policy Association (IHEPA), narayanadelampady@gmail.com*	*1. Dr. Benson Thomas, M, SRMIST,*
2. Dr. Mohan.V, MD, PhD Mohan Diabetes Research Foundation, Chennai	*2. Dr. Godwin S K, University of Kerala & IHEPA, godwinsk@yahoo.com*	*2. Dr. Unnikrishnan Payyapalli, unnipm@gmail.com*

Course Code	PH23203T	Course Name	INTRODUCTION TO ENVIRONMENTAL HEALTH	Course Category	C	*Professional Core*	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards		Nil	

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	*Obtain basic understanding about environmental determinants of health and disease and strategies to tackle them*
CLR-2 :	*Utilize various environmental epidemiological methods to understand link between environment and human health*
CLR-3 :	*Utilize knowledge to identify occupational determinants of health to promote healthy work places*
CLR-4 :	*Utilize existing knowledge to analyse environmental hazards for undertaking public health action*
CLR-5 :	*Obtain knowledge and utilize it to work towards sustainable development goals to promote planetary health*

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	*Enlist Environmental Determinants of health and disease and strategies to tackle them*	*1*	*90*	*80*
CLO-2 :	*Examine Environmental epidemiological methods to understand link between environment and human health*	*2*	*80*	*70*
CLO-3 :	*Identify occupational determinants of Health to promote healthy work places*	*1*	*70*	*65*
CLO-4 :	*Analyze Environmental hazards for undertaking public health action*	*2*	*70*	*65*
CLO-5 :	*Work towards Sustainable Development goals to Promote Planetary health*	*3*	*80*	*70*

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*L*	*M*	*L*	*L*	-	-	-	*L*	*L*	-	-	-	*H*
M	*H*	*M*	*H*	*H*	*M*	-	*M*	*H*	*M*	-	*H*	-	*M*
H	*H*	*M*	*M*	*L*	-	-	-	*M*	*L*	-	*M*	-	*M*
M	*H*	*H*	*M*	*M*	*L*	-	-	*M*	*L*	-	*H*	-	*L*
H	*M*	*H*	*H*	*M*	*H*	-	-	*M*	*L*	-	*H*	-	*H*

Duration (hour)		Introduction to Environmental Health 9	Environmental Epidemiology 9	Occupational Health 9	Environmental Hazards 9	Planetary Health and Sustainability 9
S-1	SLO-1	*Understanding the basics of environmental and occupational health including theories and histories of environmental health*	*Principles of Environment Epidemiology*	*Clarifying basic concepts of occupational health*	*Clarifying basic concepts of environmental hazards*	*Insights about Planetary Health*
S-2	SLO-1	*Environmental Health Policies*	*Overview of various risk and impact assessments*	*Enlisting Occupational Hazards*	*Environmental Pollution*	*Identifying the determinants of planetary health*

Duration (hour)		Introduction to Environmental Health 9	Environmental Epidemiology 9	Occupational Health 9	Environmental Hazards 9	Planetary Health and Sustainability 9
S-3	SLO-1	*Conceptualization of legal mechanisms in national and international context involved in environmental health*	*Environmental Risk Assessment*	*Laws related to occupational health*	*Waste disposal and treatment*	*Impact of determinants of planetary health on human health*
S-4	SLO-1	*Overview of ecosystem in various context*	*Health Impact Assessment*	*Overview of occupational hazards in the developing world*	*Identifying sources and types of pollution*	*Clarifying concepts of environmental sustainability and advocacy*
S-5	SLO-1	*Built environment and transport*	*Basic overview of various environmental research methods*	*Various government and other schemes related to occupational health for working population in the growing world*	*Overview of biomedical waste management*	*Impact of climate change on human health*
S-6	SLO-1	Housing and green space	*Understanding techniques to to identify risk,hazard and vulnerability*	*Schemes related to occupational health for working population in the growing world*	*Central Pollution Board Guidelines*	*Lifestyle and dietary effects of health*
S-7	SLO-1	*In-depth understanding of built environment, transport, housing and green space in relation to human health*	*Utilizing knowledge to contrast impact matrixes- Risk Matrix and Vulnerability Matrix*	*Clarifying concepts of accident and accident prevention*	*State Pollution Board Guidelines*	*Food Systems*
S-8	SLO-1	*Utilizing knowledge to link the built environment, transport, housing and green space to human health*	*Hazard Controls*	*Exploring concepts of electric safety and fire safety*	*Clarifying the basics of Disaster Management*	*Clarifying basics of food safety*
S-9	SLO-1	*Assessing the impact of the environment on health.*	*Utilizing knowledge to construct on-site and offsite emergency plans*	*Occupational diseases associated with metal, fumes, gas and dust*	*Improving awareness about the importance of disaster management*	*Overview of Water, Sanitation and Hygiene (WASH)*

Learning Resources	1. *Dart P, Jarosinska D, Hoogeveen Y (eds). Environment and human health – Joint EEA-JRC report (EEA report no 5/2013). European Environment Agency. Luxembourg: Publications Office of the European Union, 2013. Available at www.eea.europa.eu/publications/environment-and-human-health* 2. *Whitmee S, Haines A, Beyrer C, Boltz F, Capon AG, de Souza Dias BF, Ezeh A, Frumkin H, Gong P, Head P, Horton R. Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health. The Lancet. 2015 Nov 14;386(10007):1973-2028.*	3. *Frumkin, H (ed), Environmental Health. From Global to Local. 2nd edition. John Wiley & Sons, 2010* 4. *Levy B, Wegman D, Baron S, Sokas R. Occupational and Environmental Health. 6 th edition. Lippincott, Williams & Wilkins. 2011.*

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Mr.Girish Raghav, Plant Oprations Lead, Mawaad Environmental Services, United Arab Emirates	*1. Dr.K.Elangovan, DDG, DGFASLI< Govt.of India*	*1. Dr. Dhivya K, SRMIST* *2. Dr.K.S.Vignesh, SRMIST*

Course Code	PH23204T	Course Name	INTRODUCTION TO HEALTH PROMOTION AND HEALTH COMMUNICATION	Course Category	C	Professional Core	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*	Learning		
		1	2	3
CLR-1 :	Understand the fundamentals of Health Promotion and its role in Public Health			
CLR-2 :	Identify the Strategies for effective communication from a Socio-Ecological Model approach			
CLR-3 :	Learn about National health promotion and policies; Strategies and application of concepts			
CLR-4 :	Identify Social and Community Health Issues			
CLR-5 :	Analyze approaches to Health Literacy			

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	*Learn about health promotion and its role in Public health*	*3*	*85*	*80*
CLO-2 :	*Apply knowledge and build skills for effective communication and strategic communication*	*3*	*85*	*80*
CLO-3 :	*Become a well-informed public health specialist about national health promotion policies*	*3*	*85*	*80*
CLO-4 :	*Understand and find solutions for Community and Social health problems*	*3*	*85*	*80*
CLO-5 :	*Learn about Health Literacy, Readability and Numeracy*	*3*	*85*	*80*

Program Learning Outcomes (PLO)														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disciplinary Knowledge	Critical Thinking	Problem Solving	Analytical Reasoning	Research Skills	Team Work	Scientific Reasoning	Reflective Thinking	Self-Directed Learning	Multicultural Competence	Ethical Reasoning	Community Engagement	ICT Skills	Leadership Skills	Life Long Learning
H	*L*	-	-	*M*	*H*	-	*H*	*M*	-	*H*	*M*	*L*	*M*	*H*
H	*L*	-	-	*M*	*H*	-	*H*	*M*	-	*H*	*M*	*L*	*M*	*H*
H	*L*	-	-	*M*	*H*	-	*H*	*M*	-	*H*	*M*	*L*	*M*	*H*
H	*L*	-	-	*M*	*H*	-	*H*	*M*	-	*H*	*M*	*L*	*M*	*H*
H	*L*	-	-	*M*	*H*	-	*H*	*M*	-	*H*	*M*	*L*	*M*	*H*

Duration (hour)		Health Promotion	Health Communication Strategies	National Health Promotion Policies and Approaches	Social and Community Health Issues	*Health Literacy and Numeracy*
		12	12	12	12	12
S-1	SLO-1	*Definition of Health Promotion*	*Learn HP and communication: Basics*	*Learn about Overview of Current National Policies In HP*	*Learn about social and personal responsibilities and control measures in Public Health*	*Defining Health Literacy; Literacy in India investigate*
	SLO-2	*Learn and differentiate Health Promotion vs Prevention vs Health Protection*	*Applying communication for better health Outcomes*			
S-2	SLO-1	*Learn and apply Health Promotion Strategies: Role of Communication in crafting Strategies*	*Learn and apply strategies about Tailored and Targeted Health Communication.*	*Learn and review National Health Promotion: Communicable Diseases*	*Community Health Issues: Tobacco Use, Analyze and discuss*	*Defining Numeracy, Need for Health Literacy for better Health Outcomes*
	SLO-2					

Duration (hour)		Health Promotion	Health Communication Strategies	National Health Promotion Policies and Approaches	Social and Community Health Issues	*Health Literacy and Numeracy*
S-3	SLO-1	*Describe Health Promotion @ Individual Level*	*https://www.researchgate.net/profile/Matthew_Kreuter/publication/8962914_Tailored_and_Targeted_*	*Learn and review Non-Communicable Diseases*	*Community Health issues: Obesity? Individual problem or population issue - Discussion*	*Identifying facilitators of Health Literacy*
S-5	SLO-1 SLO-2	*Describe Health Promotion @ Family Level*	*Health_Communication_Strategies_for_Enhancing_Information_Relevance/links/004635151c54e736b0000000.pdf: Review Article and discuss*	*Learn and debate on National Nutrition Programs*	*Drug Use in Young Indians – An issue or not. Discussion*	*Identifying and analysing barriers of Health Literacy*
S-6	SLO-1 SLO-2	*Describe Health Promotion @ Community Level*		*Learn about RMNCH + A*	*Alcoholism: A community problem enabled by the Government? Discuss*	*Tools to assess Health Literacy: Building Skills*
S-7	SLO-1 SLO-2	*Describe Health Promotion @ National Level*	*Interactive Health Communication in Preventive Medicine: (Am J Prev Med 2000;19(2):113–120) Review Article and discuss*	*Learn about Evidence Based Communication in Health Promotion: Need for evaluation*	*Alcoholism among women: An upcoming problem in India? Debate*	
S-8	SLO-1 SLO-2	*Apply Health Promotion Theories and Concepts - Define*		*https://www.researchgate.net/profile/Nicolaas_Pronk/publication/23733236_Designing_and_Evaluating_Health_Promotion_Programs_Simple_Rules_for_a_Complex_Issue/links/5b3b5fc*	*Road Traffic Accidents: Unintentional Injuries / mortality. A Socio-Ecological Analysis*	
S-9	SLO-1 SLO-2	*Apply Health Promotion @ Schools compare different states*			*RTA and Alcoholism: Root cause for mortality among young adults: Discuss*	*Cultural Competency and Health Literacy: A critical analysis*
S-10		*Discuss Health Promotion @ Work, Public vs Private Employers*	*Learn and Apply Social Media as a Health Promotion Tool*	*7aca2720785058e3f/Designing-and-Evaluating-Health-Promotion-Programs-Simple-Rules-for-a-Complex-Issue.pdf - Discuss/ Review*	*Learn and review Domestic Violence in India: Statistics / Determinants of Violence*	
S 11		*Discuss Health Promotion @ Communities*	*Understand about Older Adults and Technology Use*	*Community Needs Assessment: A community needs assessment for rural mental health promotion. Margaret M. Barry, Ann Doherty, Ann Hope, Jane Sixsmith, C. Cecily Kelleher Health Education Research, Volume 15, Issue 3, June 2000, Pages 293–304, https://doi.org/10.1093/her/15.3.293 - Review*		*Class Activity; Flesch Kincaid Reading Levels*
S 12		*Understand Social Determinants & HP*	*Learn to apply Effective Strategies for different populations*		*https://www.thehindu.com/news/national/tamil-nadu/81-of-rural-families-in-tn-suffered-domestic-violence-during-lockdown-survey/article31915775.ece Discussion*	*Learn and apply SMOG scores for reading materials:*

Learning Resources	1. *A history of Public Health, George Rosen, JohnsHopkin University, 2015*	2. *Ibsen, Henrik (1964). A Public Enemy in Ghosts and Other Plays, trans. Peter Watts, London: Penguin Books* 3. *Porter, Dorothy (1999). Health, Civilization, and the State: A History of Public Health from Ancient to Modern Times.*

Course Designers		
Experts from Industry	**Experts from Higher Technical Institutions**	**Internal Experts**
1 Dr.Jay Krishnan	*1. Dr.Bagavandas, CFS, SRM IST*	*Dr.Geetha V, SRMIST*
		Dr.Bharathi P, SRMIST

Course Code	PH23205T	Course Name	RESEARCH METHODOLOGY	Course Category	M	Mandatory Course	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	To learn and understand the scientific bases of public health
CLR-2 :	To understand the fundamentals of infectious and non-communicable diseases
CLR-3 :	To understand the multidisciplinary nature of public health
CLR-4 :	To study the role of nutrition and lifestyle in maintaining good health
CLR-5 :	To develop critical thinking for managing conditions of public health importance

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	**Learning**		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Describe the various dimensions and determinants of health and diseases	*3*	*85*	*80*
CLO-2 :	Demonstrate an understanding of the epidemiology of diseases	*3*	*80*	*80*
CLO-3 :	Apply multidisciplinary approaches in Public Health practice	*3*	*85*	*80*
CLO-4 :	Apply concepts of nutrition and lifestyle to prevent and manage diseases	*2*	*75*	*80*
CLO-5 :	Develop practical solutions for managing conditions of public health importance	*2*	*80*	*80*

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*M*	*L*	*M*	*H*	*H*	*L*	*L*	*M*	*M*	*L*	*M*	*L*	*M*
H	*H*	*H*	*M*	*H*	*H*	*M*	*H*	*H*	*H*	*M*	*H*	*M*	*M*
M	*M*	*H*	*L*	*M*	*H*	*M*	*L*	*M*	*M*	*L*	*H*	*M*	*M*
H	*H*	*M*	*M*	*M*	*H*	*L*	*H*	*M*	*M*	*H*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*

Duration (hour)		Research Preparation and Planning 12	Data Collection, Analysis and Inference 12	Sampling and Sampling Methods 12	Qualitative Research Methods and Participative Rural Appraisal (PRA) 12	Research Communication 12
S-1	**SLO-1**	*To develop objectives of research*	*To understand the tools and measurements used in research*	*To learn the definition of sampling*	*To understand concepts of qualitative research*	*To understand the criteria for Proposal writing*
S-2	**SLO-1**	*To learn public health surveillance*	*Developing a questionnaire*	*To understand the principles of sampling and sample size*	*To apply concepts of qualitative research*	*Manuscript preparation for publication*
S-3	**SLO-1**	*To provide research justification*	*To understand quantitative data*	*To learn probability sampling methods*	*To understand concepts of mixed methods*	*To learn different referencing styles*
S-4	**SLO-1**	*Able to rationalize study*	*To understand quantitative research*	*To learn non probability sampling methods*	*To apply concepts of mixed methods*	*To present research results*

Duration (hour)		Research Preparation and Planning 12	Data Collection, Analysis and Inference 12	Sampling and Sampling Methods 12	Qualitative Research Methods and Participative Rural Appraisal (PRA) 12	Research Communication 12
S-5	**SLO-1**	*Conceptualizing the research design*	*Recognizing different data entry formats*	*Application of probability sampling methods*	*To learn the different types of qualitative research*	*To practice preparing for IEC*
S-6	**SLO-1**	*To understand and implement the concepts of research design*	*To learn data entry softwares*	*Application of non- probability sampling methods*	*To learn different interview techniques*	*Understanding the peer review process*
S-7	**SLO-1**	*To formulate a hypothesis*	*To apply concepts into data entry softwares*	*To learn the concepts to determine the sample size*	*To understand analysis paradigms*	*To learn the communication for science*
S-7	**SLO-1**	*To write a research proposal*	*Cleaning Data*	*To learn, understand and apply the concepts of sampling weights*	*To analyze analysis paradigms*	*Learning Various types of presentation skills like oral & posters presentation*
S-8	**SLO-1**	*To learn different sources of information*	*Leaning concepts of data management*	*To choose appropriate sampling methods for research*	*To understand the types of qualitative analysis*	*Restate IMRAD concepts of writing the manuscripts*
S-8	**SLO-1**	*To use different sources of information*	*To apply concepts with basic statistical analysis*	*Applying the concepts of different sampling methods*	*Learning the different types of softwares used for qualitative data analysis*	*Developing a logic model*
S-9	**SLO-1**	*To write a literature review*	*To develop a logistic regression model*	*To determine the appropriate sampling method for project*	*Understanding the importance and application of Participative Rural Appraisal*	*To develop a critical appraisal*
S-10	**SLO-1**	*To understand the ethics of research planning and preparation*	*To interpret a logistic regression model*	*Preparing Sample frame and selecting samples*	*To practice the concepts of Participative Rural Appraisal through field visit*	*Discuss about impact factor, ISSN , CIF*
S-11	**SLO-1**	*To implement the ethics of research planning and preparation*	*To practice data cleaning and management*	*Assessing nonresponses and controlling errors*	*To visualize a social and resource map*	*Micro seminar on Journal discussion*
S-12	**SLO-1**	*To develop a research question based on topic given*	*Analysis and Interpretation of small data set*	*Discussion on data collection of required sampling subjects*	*Exploring ethical issues in qualitative research*	*Understand STROBE guidelines*

Learning Resources	*1.* World Health Organization. Health Research Methodology A guide for training in research methods-World Health Organization -World Health Organization, 2011	*2.* Public Health Research Methods. Greg Guest & Emily E.Namey, 2015, Sage Publications

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Nirmala Murthy, Bangalore	*1. Dr. Kanthadevi Arunachalam, HOD, Environmental Sciences, SRMIST*	*1. Dr.H. Gladius Jennifer, SRMIST* *2. Dr.Selvamani, SRMIST*

Course Code	PH23206P	Course Name	PRACTICUM – DESIGNING AND CONDUCTING A RESEARCH STUDY (INCLUDING DATA COLLECTION IN FIRLD) AND REPORT WRITING AND PRESENTATION*	Course Category	S	*Skill Enhancement*	L	T	P	C
							0	0	8	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	*To introduce variables entry and explore listing in SPSS*
CLR-2 :	*Learn to work with descriptive statistics in SPSS*
CLR-3 :	*Able to analyses univariate analysis in SPSS*
CLR-4 :	*Analyze correlation between variables and interpret output*
CLR-5 :	*Perform regression analysis using SPSS*

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	*Manipulate data and variables in SPSS*	*1*	*85*	*75*
CLO-2 :	*Compute various descriptive statistics in SPSS*	*2*	*90*	*80*
CLO-3 :	*Relate normality assumptions using SPSS*	*3*	*85*	*75*
CLO-4 :	*Discriminate univariate analysis in SPSS*	*2*	*80*	*70*
CLO-5 :	*Predict the relationship between variables using SPSS*	*2*	*80*	*70*

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*L*	*L*	-	*L*	-	*L*	-	*L*	*L*	*L*	-	*L*	-
M	*L*	*L*	*L*	*H*	*M*	*L*	-	*H*	*M*	*L*	-	*M*	-
M	*M*	*M*	*M*	*H*	*H*	*L*	-	*M*	*L*	*L*	-	*L*	*M*
H	*M*	*M*	*L*	*M*	-	*L*	-	*L*	*L*	*L*	-	*L*	-
M	*H*	*M*	*M*	*H*	*H*	*L*	-	*M*	*L*	*L*	-	*L*	*M*

Duration (hour)		Developing the familiarity with SPSS processer (6)	Working with descriptive statistics (6)	Hypothesis testing (6)	Correlation analysis (6)	Regression analysis (6)
S-1	SLO-1	Introduction to SPSS	Construction of Frequency tables	Test the normality assumptions	Data entry for correlation analysis	Overview of various methods of regression analysis

S-2	**SLO-1**	Entering data in SPSS Editor	Analyze and interpret simple tables for quantitative data	Fit confidence interval and p	Choice of coefficient suitable correlation	The method of least squares

Duration (hour)		**Developing the familiarity with SPSS processer (6)**	**Working with descriptive statistics (6)**	**Hypothesis testing (6)**	**Correlation analysis (6)**	**Regression analysis (6)**
S-3	**SLO-1**	Inserting and defining variables	Draw Line, Bar, Pie diagram and interpret	Student t test and Paired t test with interpretation	Pearson Correlation analysis and interpret the output	Regression line in scatter plot
S-4	**SLO-1**	Missing value analysis	Draw Scatter diagram and interpret	Chi square test and its interpretation	Spearman rank Correlation analysis and interpret the output	Estimating simple linear regression model
S-5	**SLO-1**	Sorting and transposing	Measures of Central Tendency and interpretation	Mann Whitney U test and interpret the output	Kendals rank Correlation analysis and interpret the output	Demonstration of Multivariate analysis
S-6	**SLO-1**	Splitting and Merging	Measures of Variation and interpretation	Wilcoxson signed rank test and interpret the output	Practice with databases	Overview of other types of regression models in SPSS

Learning Resources		
1. Field, Andy. Discovering statistics using SPSS, 3rd Ed, Sage Publishers, 2009. *2. Pallant, Julie. SPSS survival manual, 4th Ed, McGraw Hill, 2010.*	*3. Vronk, Brain. How to use SPSS: A step by step guide to interpretation, 5th Ed, 2008*	

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	25	10	20	15	25	10
Level 2	Apply Analyze	15	20	30	10	20	10
Level 3	Evaluate Create	20	10	15	10	20	15
	Total	100 %		100 %		100%	

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Thenmozhi, Christian Medical College, Vellore	*1. Dr. M. Bagavandas, HOD, Centre for statisitcs, SRMIST*	*1. Dr.H. Gladius Jennifer, Asso.Prof, SRMIST* *2. Dr.M. Prakash, Asst. Prof, SRMIST*

Course Code	PH23301T	Course Name	MANAGEMENT OF RMNCH+A PROGRAMS + NUTRITOUS PROGRAMS	Course Category	PE	Professional Elective	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	Align theory and practice of public health in RMNCH+A strategy
CLR-2 :	Understand risk factors for RMNCH+A
CLR-3 :	Understand continuum of care concept and strategic lifecycle approach
CLR-4 :	Acquire proficiency in RMNCH+A indicators
CLR-5 :	Understand *planning, implementing and evaluating RMNCH+A Programs*

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	*Verbalize the significance of reproductive health in public health*	*1*	*85*	*75*
CLO-2 :	*Gain insights to maternal, neonatal, infant and child's and adolescent health*	*2*	*90*	*80*
CLO-3 :	*Comprehend the role of Social Constructs and norms in bringing about parity and disparity among groups of populations*	*3*	*85*	*75*

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
M	*L*	*L*	*L*	*H*	*M*	*L*	*-*	*H*	*M*	*L*	*-*	*M*	*L*
M	*H*	*M*	*M*	*H*	*H*	*H*	*-*	*M*	*H*	*H*	*-*	*L*	*M*
M	*M*	*M*	*M*	*H*	*H*	*L*	*-*	*M*	*L*	*H*	*-*	*M*	*H*
H	*L*	*L*	*M*	*L*	*M*	*H*	*-*	*L*	*L*	*L*	*-*	*L*	*H*
H	*M*	*M*	*L*	*M*	*H*	*L*	*-*	*H*	*H*	*L*	*-*	*L*	*M*

Duration (hour)		Introduction to RMNCH+A (6)	Maternal Health (6)	Child Health (6)	Gender and Health (6)	*Adolescent Health* (6)
S-1	**SLO-1**	*Introduction to RMNCH+A and historical context*	*Understand maternal health and maternal mortality – burden and trend*	*Learn magnitude of neonatal and under-five mortality and their trend*	*Learn about Social Constructs and its role in Public Health*	*Understand health problems of adolescents*
S-2	**SLO-1**	*Understand and learn the various components of RMNCH+A*	*Understand and analyse quality of maternal health services in India*	*Design strategies to reduce neonatal and under-five mortality*	*Learn and analyze Gender Inequalities in Health*	*Discuss: unintended pregnancy, abortion and contraception, STIs*

Duration (hour)		Introduction to RMNCH+A (6)	Maternal Health (6)	Child Health (6)	Gender and Health (6)	*Adolescent Health* (6)
S-3	**SLO-1**	*Learn about Men's involvement in RMNCH+A*	*Understand and learn about National programs on maternal health- NHM, ASHA, JSY*	*Get familiarised to governmental programs - JSSK, IMNCHA, ICDS*	*Understand status of women and ways to empower women*	*Learn to impart life skill education to adolescents; government programs on adolescents*

Learning Resources	1. *A strategic approach to Reproductive, Maternal, Newborn, Child and Adolescent Health in India, Ministry of Health and Family Welfare 2013*	2. *Innovation in Maternal health, Case studies from India. Jay K Satia et al. Sage Publications, 2014* 3. *Adolescent and Youth reproductive Health in India, SD Gupta, ICMR 2005.*

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	25	10	20	15	25	10
	Understand						
Level 2	Apply	15	20	30	10	20	10
	Analyze						
Level 3	Evaluate	20	10	15	10	20	15
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	
Ms. Dhivya Yeleswarapu	*1 Dr. Sundari Ravindran*	*Ms. Geetha Veliah*
		Dr. Bharathi Palanisamy

Course Code	PH23302T	Course Name	MANAGEMENT OF COMMUNICABLE & NON-COMMUNICABLE DISEASE PROGRAMS	Course Category	PE	Professional Elective	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	Align theory and practice of Public health per the principles of Epidemiology
CLR-2 :	Acquire proficiency in Epidemiological measurement of communicable disease
CLR-3 :	Understand risk factors for common communicable diseases
CLR-4 :	Design screening programs for common communicable diseases
CLR-5 :	Describe and design Disease surveillance methods

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Understand epidemiology of communicable and non-communicable diseases	*1*	*85*	*75*
CLO-2 :	Developing strategy to control select communicable and non-communicable diseases	*2*	*90*	*80*
CLO-3 :	Analyse current disease control and prevention programs for common diseases	*3*	*85*	*75*
CLO-4 :	Develop skills to Monitor and Evaluate communicable and non-communicable disease control programmes	*2*	*80*	*70*
CLO-5 :		*2*	*80*	*70*

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
M	*L*	*L*	*L*	*H*	*M*	*L*	-	*H*	*M*	*L*	-	*M*	*L*
M	*H*	*M*	*M*	*H*	*H*	*H*	-	*M*	*H*	*H*	-	*L*	*M*
M	*M*	*M*	*M*	*H*	*H*	*L*	-	*M*	*L*	*H*	-	*M*	*H*
H	*L*	*L*	*M*	*L*	*M*	*H*	-	*L*	*L*	*L*	-	*L*	*H*
H	*M*	*M*	*L*	*M*	*H*	*L*	-	*H*	*H*	*L*	-	*L*	*M*

Duration (hour)		Management of TB program (6)	Management of vector borne disease program (6)	Management of Leprosy program (6)	Management of COVID-19 (6)	NCD control programs
S-1	SLO-1	To understand burden of tuberculosis and its trend	To understand burden of major vector borne diseases	Understand burden of leprosy in India and other countries	Origin and spread of COVID-19	Management of diabetes program
S-2	SLO-1	Understand methods of diagnosing TB and TB treatment protocols; know about the challenge of drug resistant TB and options	To understand diagnosis of major vector borne diseases and treatment protocols	To understand trend of leprosy in high burden states of India; explain strategy for leprosy elimination	Develop epidemic curve of COVID pandemic	Management of cardiovascular disease control program
S-3	SLO-1	Understand revised national tuberculosis control program	To explain strategy for control of various vector borne diseases	To understand leprosy elimination program	Analyse COVID prevention strategies; immunisation program	Management of cancer control program

Learning Resources	
	1. Epidemiology Leon Godris, 5th Ed. Saunders Philadelphia 2014 2. Basics of Epidemiology, Bonita &Beaglehole. 2nd Edition -WHO, 2007 3. Friis RH, Sellers TA. Epidemiology for public health practice, 4th edit. Boston: Jones & Bartlett Publisher, 2009 4. Clinical epidemiology the essentials. -Fletcher, Robert H., Suzanne W. Fletcher, Edward H. Wagner.LWW; Fifth edition-Lippincott Williams & Wilkins, 2014 5. An Introduction to Public Health and Epidemiology -Susan Carr, Nigel Unwin, Tanja Press-Mulloli, Second Edition. -Open University Press, 2007 6. Epidemiology, Bio statistics & Preventive medicine -James F. Jekal, David L Katz, Joann G Elmore, Dorothea Wild, 4th edition. -W.B. Saunders Company publishers, 2013 7.

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	25	10	20	15	25	10
	Understand						
Level 2	Apply	15	20	30	10	20	10
	Analyze						
Level 3	Evaluate	20	10	15	10	20	15
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Jayaprakash Muliyil, ICMR scientific advisory committee, jpmuliyil@gmail.com	1. Dr. Vijay Gopichandran. ESIC Medical College andPGIMSR, vijay.gopichandran@gmail.com	1. Dr. Alex Joseph, SRMIST

Course Code	PH23303 T	Course Name	APPLIED AND FIELD EPIDEMIOLOGY	Course Category	*PE*	*Professional Elective*	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	Align theory and practice of Public health per the principles of Epidemiology
CLR-2 :	Acquire proficiency in Epidemiology of communicable & non- communicable disease
CLR-3 :	Understand concept of epidemic management
CLR-4 :	Design screening programs for common non-communicable diseases
CLR-5 :	Describe and design Disease surveillance methods

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Understand epidemiological methods	*1*	*85*	*75*
CLO-2 :	do	*2*	*90*	*80*
CLO-3 :	Know how to prevent common diseases	*3*	*85*	*75*
CLO-4	Competence to manage epidemic	*2*	*80*	*70*
CLO-5	Organize screening program for NCDs	*2*	*80*	*70*

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*L*	*L*	*-*	*L*	*-*	*L*	*-*	*L*	*L*	*L*	*-*	*L*	*-*
M	*L*	*L*	*L*	*H*	*M*	*L*	*-*	*H*	*M*	*L*	*-*	*M*	*-*
M	*M*	*M*	*M*	*H*	*H*	*L*	*-*	*M*	*L*	*L*	*-*	*L*	*M*
H	*M*	*M*	*L*	*M*	*-*	*L*	*-*	*L*	*L*	*L*	*-*	*L*	*-*
M	*H*	*M*	*M*	*H*	*H*	*L*	*-*	*M*	*L*	*L*	*-*	*L*	*M*

Duration (hour)		Epidemiological methods (6)	Epidemiological methods (6)	Prevention (6)	Screening (6)	Epidemic management (6)
S-1	**SLO-1**	Epidemiological methods	Case-control studies	Prevention of communicable diseases	Screening of NCDs	Type of epidemics and public health challenges
S-2	**SLO-1**	Descriptive studies	Cohort studies	Prevention of NCDs	Exercise	Investigation of epidemics
S-3	**SLO-1**	Cross-sectional studies, ecological studies	Experimental studies	Injury prevention	Exercise	Management of epidemics

Learning Resources	1. Park's Textbook of Preventive and Social Medicine by K Park. 22nd Edition. Bhanot (January 1, 2011) 2. Textbook of Public Health and Community Medicine By RajVir Bhalwar. First edition, 2009. Published by AFMC & WHO. 3. Oxford Text Book of Public Health.5th Edition. Oxford university press, 2009. 4. WHO. Global status report on non-communicable diseases 2010. Chapter 2,3 &4	5. Burden of Disease in India. National Commission on Macroeconomic on Health, Equitable development and health future. Chapter on Disease Burden in India estimation and Causal. Analysis. MOFW, GOI, 2005 6. Communicable disease Epidemiology and control A global perspective. Roger Weber: CABI Publisher Chapter 1-4. 7. Epidemiology, Biostatistics, Preventive Medicine, and Public Health, Katz DL, Wild D, Elmore JG, Lucan SC. Jekel's 4th Edition. Saunders: 2013.

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	10	15	20	15	20	15
	Understand						
Level 2	Apply	20	20	20	25	15	20
	Analyze						
Level 3	Evaluate	20	15	10	10	15	15
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Jayaprakash Muliyil, ICMR scientific advisory committee, jpmuliyil@gmail.com	1. Dr. Vijay Gopichandran. ESIC Medical College and PGIMSR, vijay.gopichandran@gmail.com	1. Dr. Alex Joseph, SRMIST

Course Code	PH23304T	Course Name	HEALTH SYSTEMS STRENGTHENING – HR/OB, HMIS AND QUALITY MANAGEMENT	Course Category	PE	Professional Elective	L	T	P	C
							3	2	0	5

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	
CLR-2 :	
CLR-3 :	
CLR-4 :	
CLR-5 :	

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning			Program Learning Outcome (PLO)													
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
CLO-1 :	Importance of Strategic Management in public health programs	1	85	75	M	L	L	L	H	M	L	-	H	M	L	-	M	L
CLO-2 :	Apply knowledge of human resource management in public health programs	2	90	80	M	H	M	M	H	H	H	-	M	H	H	-	L	M
CLO-3 :	Understand basics of logistics management	3	85	75	M	M	M	M	H	H	L	-	M	L	H	-	M	H
CLO-4 :	Skills to improve quality of Public Health programs and public health facilities	2	80	70	H	L	L	M	L	M	H	-	L	L	L	-	L	H
CLO-5 :	Design Health Management Information systems in a public health program and a health facilty	2	80	70	H	M	M	L	M	H	L	-	H	H	L	-	L	M

Duration (hour)		Human Resource Management & OB	Strategic Management	Introduction To Logistics Management (12)	Quality Management	Health Management And Information System (12)
S-1	SLO-1	Values, attitude and behaviour	Understand strategy and strategic management	Understanding the basics of logistics management	Quality-Definition, Vision and Mission, Key Principles, Aims, Dimensions and Cost	Discussing the basics of HMIS
S-2	SLO-1	Team building in a public health program	Learn to perform SWOT analysis	Explaining a supply chain management in a health program	Understanding Quality Indicators for a health facility and a few programs	Health information needs of a public health facility
S-3	SLO-1	Motivating health team members	Developing a Log frame approach	Understand cold chain in immunization	Process of Quality improvement	Health information needs of district and state health office

Duration (hour)		Human Resource Management	Strategic Management	Introduction To Logistics Management (12)	Quality Management	Health Management And Information System (12)
S-4	SLO-1	*Leadership- leading a health program*	*Develop a strategy for control of TB in a community*	*Accounting of goods in health programs*	*Developing standards for QI of a public health facility*	*Health information needs in a health program*
S-5	SLO-1	*Work culture*	*Develop a strategy for control of obesity in a community*	*Exercise*	*Developing standards for QI in a health program*	*Familiarization with data sources*
S-6	SLO-1	*Role and responsibilities of a health program manager*	*Develop a strategy to discourage people from tobacco use*	*Exercise*	*Exercise*	*Exercise on data analysis*

Learning Resources	*1. Management: Principles and Practice, S.K.Mandal, Jaico publications,2011*	*2. Principles of Management: Efficiency and Effectiveness in the Private and Public Sector Textbook by Ian Towers and Peter Eichhorn, Springer,2018.*

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	25	10	20	15	25	10
	Understand						
Level 2	Apply	15	20	30	10	20	10
	Analyze						
Level 3	Evaluate	20	10	15	10	20	15
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr .Nirmala Murthy, FRHS, Bangalore		*1. Dr. Kalpana B, SRM IST*

Course Code	PH23305P	Course Name	PRACTICAL-DEVELPOING A PROPOSAL ON AN OPERATIONS (ACTION) RESEARCH OR INTERVENTION PROGRAM*	Course Category	S	*Skill Enhancement*	L	T	P	C
							0	0	8	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	Obtain basic understanding on R programming
CLR-2 :	Secure familiarizstion about various Environments in R software
CLR-3 :	Understand basic concepts of statistics
CLR-4 :	Understand the functions for hypothesis testing and prediction
CLR-5 :	Utilize understanding of various R functions and implement it

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	***Learning***		
		1	*2*	*3*
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Understand the Basic functions in R	*1*	*85*	*75*
CLO-2 :	Familiarize various environments in R programming	*2*	*90*	*80*
CLO-3 :	Familiarize with basic concepts of Statistics	*3*	*85*	*75*
CLO-4 :	Approaches and functions to do hypothesis testing and prediction	*2*	*80*	*70*
CLO-5 :	Familiarize with Advanced functions of R for doing predictive analysis	*2*	*80*	*70*

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*L*	*L*	*-*	*L*	*-*	*L*	*L*	*L*	*L*	*L*	*L*	*L*	*L*
M	*L*	*L*	*L*	*H*	*M*	*L*	*M*	*H*	*M*	*L*	*M*	*M*	*H*
M	*M*	*M*	*M*	*H*	*H*	*L*	*M*	*M*	*L*	*L*	*H*	*L*	*M*
H	*M*	*M*	*L*	*M*	*H*	*L*	*H*	*L*	*L*	*L*	*H*	*L*	*M*
M	*H*	*M*	*M*	*H*	*H*	*L*	*H*	*M*	*L*	*L*	*H*	*L*	*H*

Duration (hour)		Introduction (6)	R Environment (6)	Basic statistical concepts (6)	Testing of hypothesis using R (6)	Advanced functions of R (6)
S-1	SLO-1	Understanding the History of R and S	Understanding the basics of R Environment	Understanding the basics of Statistics	Recall the Basic Concept of Hypothesis testing	Understand Advanced functions of R
S-2	SLO-1	Obtaining and installing R	Overview of Graphic subsystem in R	Overview of the Probability and distributions	Explain One sample and Two sample T Test using R functions	Explain the Loop functions in R
S-3	SLO-1	Explaining Different Data types in R	Understanding Flow control and cases	Recall the concept of Descriptive and	Explain paired T Test and ANOVA using R functions	Understanding Debugging functions
S-4	SLO-1	Introducing the basic function and arguments of R	Clarifying basic concepts of generic function in R	Recall the concept of summary statistics	Explain Pearsons and Spearman's Correlation and Kendal's Tau using R functions	Recall Simulation Concepts and ts function in R
S-5	SLO-1	Understanding Vector and List usage in R	Understanding the Libraries in R and its usage	Recall the concept of Descriptive and summary statistics for multiple groups	Explain Regression models using R functions	Demonstarte Random number generator in R
S-6	SLO-1	In depth understanding of Dataframe and subsetting function in R	Demonstrate Data entry in R	Demonstration on generating tables	Demonstrate Simple and Multiple Regression functions in R	Demonstarte Random model R

Learning Resources	
	1. *R programming for Data science, Roger D Peng, Lean publishing, 2015* 2. *The art of R Programming, Norman Matloff, No starch press, San Francisco, 2011* 3. *The R book, Michael J crawley, 2007, John Wiley and sons* 4. *Software for Data Analysis, Programming with R, John chambers, Springer New York, 2010*

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	20	15	15	10	20	15
	Understand						
Level 2	Apply	20	25	20	20	15	20
	Analyze						
Level 3	Evaluate	10	10	15	20	15	15
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr Dhivya Karmegham	*2. Prof Bagawandas Head, Centre for Statistics*	*3. Dr.M Prakash Asst Prof SRMIST*

Course Code	PH23311T	Course Name	SOCIO-ECONOMIC DETERMINANTS OF HEALTH	Course Category	PE	Professional Elective	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	Gain basic understanding of the theoretical rationale for socio-economic determinants of health
CLR-2 :	Understand the health inequality and health and also its measurements
CLR-3 :	Know about the effect of social and economic policy as well as public health on population health outcomes
CLR-4 :	Able to measure the social determinants of health using quantitative techniques
CLR-5 :	Develop the skills to use statistical software to model the social determinants of health

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Understand the theoretical rationale for social determinants of health	3	95	85
CLO-2 :	Have the knowledge about the health inequality and health and also its measurements	3	90	80
CLO-3 :	Understand the effect of social and economic policy as well as public health on population on health outcomes	3	90	80
CLO-4 :	Measure the social determinants of health using quantitative techniques	3	90	80
CLO-5 :	Use the statistical software to model the social determinants of health	3	90	80

Program Learning Outcomes (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	H	M	H	H	H	H	H	H	H	M	H	H	H
H	H	M	H	H	H	H	H	H	H	M	H	H	H
H	H	M	H	H	H	H	H	H	H	M	H	H	H
H	H	M	H	H	H	H	H	H	H	M	H	H	H
H	H	M	H	H	H	H	H	H	H	M	H	H	H

Duration (hour)		Introduction to Socio-economic Determinants of Health (12)	Inequality and Health (12)	Effect of Social and Economic Policy (12)	Public Health on Population Health Outcomes (12)	Exploratory Analysis (12)
S-1	SLO -1	Describe the changing context of public health (1/2)	Define socio-economic inequality	Describe about the rational of social policy intervention on health	Define the concept of investing on health (1/2)	Describe the exploratory analysis
S-2	SLO -1	Describe the changing context of public health (2/2)	Describe the types of socio-economic inequality	Explain the rational of economic policies on health	Define the concept of investing on health (2/2)	Usage of exploratory analysis in public health
S-3	SLO -1	Explain the data/indicators for tracking health	Discuss the multi-dimensionalities of health inequality (1/2)	Discuss the Rational for the Public Health Policy Intervention	Discuss the evidence to support to invest on public health	Explain the concept of exploratory analysis and social determinants of health (1/2)
S-4	SLO -1	Process of tracking health	Discuss the multi-dimensionalities of health inequality (2/2)	Explain efficiency based rational	Explain the barriers to investing on public health	Explain the concept of exploratory analysis and social determinants of health (2/2)

Duration (hour)		Introduction to Socio-economic Determinants of Health (12)	Inequality and Health (12)	Effect of Social and Economic Policy (12)	Public Health on Population Health Outcomes (12)	Exploratory Analysis (12)
S-5	SLO -1	Discuss about causal reasoning for population health (1/2)	Describe the effect of economic inequality on health - Rationale	Explain Equity based rational	Define the public health outcome	Lecture about the application of exploratory analysis for identify the social determinants of health
S-6	SLO -1	Discuss about causal reasoning for population health	Explain the effect of economic inequality on health with examples	Economic argument for health policy	Conceptualise public health intervention and population health outcomes	Modelling the socio-economic determinants of health
S-7	SLO -1	Explain the individual determinants of health	Lecture about measuring the health inequality	Discuss Economic argument for health policy – Education	Explain about public health intervention and population health outcomes (1/2)	Concept of principal component analysis
S-8	SLO -1	Lecture about the Socio-economic determinants of health (1/2)	Discuss the concept of catastrophic payment	Discuss Economic argument for health policy – Social Protection	Explain about public health interventions and population health outcomes (2/2)	Assumption and pre-requisites for principal component analysis
S-9	SLO -1	Lecture about the Socio-economic determinants of health (2/2)	Understand the catastrophic payment and impoverishment	Discuss Economic argument for health policy – Urban Development, Housing and Transport	Describe case studies on public health intervention and health outcome	Application of Principal component analysis for socio-economic determinants of health
S-10	SLO -1	Explain the models of determinants of health	Discuss the catastrophic payment and impoverishment in Indian context	Describe the effects of social and economic policies on health (1/2)	Discuss about the Indian experience of public health intervention and health outcomes (1/2)	Concept of factor analysis
S-11	SLO -1	Illustration of case studies (1/2)	Explain the need for health insurance against health inequality	Describe the effects of social and economic policies on health (2/2)	Discuss about the Indian experience of public health intervention and health outcomes (2/2)	Assumptions and pre-requisites for factor analysis
S-12	SLO -1	Illustration of case studies (2/2)	Describe health insurance and Universal Health Coverage	Class Discussion	Critically evaluate the barriers for public health intervention	Application of factor analysis for socio-economic determinants of health

Learning Resources

1. Applied multivariate statistical analysis by Johnson RA, Wichern DW, Pearson Prentice hall, NY, 6th Ed, 2007.
2. Hood, Carlyn M, Keith P Gennuso, Geoffrey R Swain, and Bridget B Catlin. 2016. "County Health Rankings: Relationships Between Determinant Factors and Health Outcomes." American Journal of Preventive Medicine 50 (2):129-135.
3. Braveman, Paula, Susan Egerter, and David R Williams. 2011. "The social determinants of health: coming of age." Annual Review of Public Health 32:381-383
4. Bor, Jacob, Gregory H. Cohen, and Sandro Galea. 2017. "Population health in an era of rising income inequality: USA, 1980–2015." The Lancet 389 (10077):1475-1490.
5. World Health Organization. (2013). Communicating the economics of social determinants of health and health inequalities. Geneva: World Health Organization.
6. Bradley, Elizabeth H, Benjamin R Elkins, Jeph Herrin, and Brian Elbel. 2011. "Health and social services expenditures: associations with health outcomes." BMJ quality & safety 20 (10):826-831.

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Francis Zavier, Population Council, New Delhi. fzavier@popcouncil	*1. Dr. Godwin S K, University of Kerala & IHEPA, godwinsk@yahoo.com*	1. Dr D Narayana, Adj Professor, SRMIST 2. Dr. Benson Thomas, Assoc Professor, SRMIST

Course Code	PH23312T	Course Name	HEALTHCARE BUDGET AND FINANCE-SOCIAL COST BENEFIT ANALYSIS	Course Category	PE	Professional Elective	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	Describe the theories and concepts of public finance and fiscal federalism.
CLR-2 :	Understand various public healthcare finance programs
CLR-3 :	Familiarize with India and state budgets, allocation and expenditure pattern to healthcare components
CLR-4 :	Impart the knowledge about specific components such as gender budget and childcare budget
CLR-5 :	Understand the concept of healthcare efficiency and effectiveness as well as its measurement

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking	Expected Proficiency	Expected Attainment
CLO-1 :	Understand about theories of public health expenditure and Indian fiscal federalism	3	95	85
CLO-2 :	Have knowledge about public healthcare finance programs and local finance in India	3	90	80
CLO-3 :	Understand budget and its healthcare and healthcare related components	3	90	80
CLO-4 :	Conceptual clarity on the topics of gender as well as childcare budgeting	3	90	80
CLO-5 :	Describe the concept of healthcare efficiency and effectiveness and its measurement	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental	Application of	Link with Related	Procedural	Skills in	Ability to Utilize	Skills in Modeling	Analyze, Interpret	Investigative Skills	Problem Solving	Communication	Analytical Skills	Professional	Life Long Learning
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H

Duration (hour)		Public Health Finance (12)	Budget (12)	Gender and Childcare Budgeting (12)	Non-public healthcare financing (12)	Healthcare Efficiency and Effectiveness (12)
S-1	SLO -1	Define the Concept of Public Expenditure	Concept of Budget	Describe about Gender Budget-Meaning and Concept	Describe the non-public healthcare financing (1/2)	Describe the Concept of Public Health Efficiency
S-2	SLO -1	Understand the Rational Behind the Public Expenditure	Describe various types of Budgets	Explain the importance of Gender Budgeting	Describe the non-public healthcare financing (2/2)	Explain the importance of Public Healthcare Efficiency
S-3	SLO -1	Describe the theories of Public Expenditure (1/2)	Explain the Importance of Public Healthcare Budgets	Understand its Major Components and Accounts	Discuss the sources of non-public healthcare financing (1/2)	Explain the measurements of Public Healthcare Efficiency
S-4	SLO -1	Describe the theories of Public Expenditure (2/2)	Explain Healthcare Allocation	Gender Budgeting in India	Discuss the sources of non-public healthcare financing (2/2)	Illustration of Measuring the efficiency

Duration (hour)		Public Health Finance (12)	Budget (12)	Gender and Childcare Budgeting (12)	Non-public Healthcare Financing (12)	Healthcare Efficiency and Effectiveness (12)
S-5	SLO -1	Discuss the concept of public health finance	Discuss the role of Local Self Governments and Health and Healthcare Financing	Demonstrate the Pattern of Gender Budgeting in India	Explain about Out-of-of pocket expenditure and measurement	Illustration of Measuring the efficiency
S-6	SLO -1	Describe the fundamental theories of public health finance	Describe the Components of Indian Healthcare Budgets	Defining the Childcare Budgets	Explain about Private Health Insurance	Describe the Concept of Effectiveness
S-7	SLO -1	Discuss the structure of public health expenditure	Discuss about the Component-Medical and Public Health	Discuss the Relevance of Childcare Budgeting	Discuss about Universal Health Coverage (1/2)	Explain the relevance of Effectiveness in Health Care
S-8	SLO -1	Discuss the growth of public health finance	Discuss about the Component - Water and Sanitization	Demonstrate the Pattern of Childcare among the Budgets in India (1/2)	Discuss about Universal Health Coverage (2/2)	Measurement of Effectiveness
S-9	SLO -1	Describe about Finance Commission	Discuss about the Component-Family Welfare and Nutrition	Demonstrate the Pattern of Childcare among the Budgets in India (2/2)	Describe the role of NGOs and Charitable organization in healthcare financing	Social Cost Benefit Analysis (1/2)
S-10	SLO -1	Describe about NITI Ayog	Explain Types of Public Healthcare Accounts – Capital and revenue Accounts	Describe about National Health Mission	Discuss about the limitation of private healthcare financing (1/2)	Social Cost Benefit Analysis (2/2)
S-11	SLO -1	Lecture about public healthcare finance program	Class Presentation – Trends in Public Healthcare Expenditure in India	Lecture on National Health Mission and Gender and Childcare	Discuss about the limitation of private healthcare financing (2/2)	Environment and Health Impact Assessment (WHO) (1/2)
S-12	SLO -1	Class Presentation: Theories of Public Expenditure and India Situation	Class Presentation – Trends in the Public Healthcare Expenditure in States	Discuss critically about NHM	Class Presentation: Trends in the non-public health expenditure in India	Environment and Health Impact Assessment (WHO) (2/2)

Learning Resources	1. Tyagi B.P "*Public Finance*," Jai Prakash Natu & Co, Meerut,7th Edition,1994. 2. Srivastava D.K., "*Issues in Indian Public Finance*," New Century Publications,2005. 3. Stostsky, J G, Zaman, A (2016) The Influence of Gender Budgeting in Indian States on Gender Equality and Fiscal Spending, IMF Working Paper 4. Chakraborty, L (2016) Asia: A Survey of Gender Budgeting, IMF Working Paper	5. Ashok, K. Chakraborty LS, Bhattacharrya PN (2005), Gender Budgeting in India, United Nations Fund for Women, South Asia, Regional Office 6. WHO (2013), The Economics of Social Determinants of Health and Health Inequalities: A resource book 7. Papanicolas,I Cylus, J. Smith, PC (2016) Health System Efficiency: How to make measurement matter for policy and management, World Health Organisation, Geneva 8. Aday LA, Begley CE, Lairson DR, Balkrishnan R (2004) Evaluating the Healthcare System: Effectiveness, Efficiency and Equity

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember Understand	*20%*	*20%*	*20%*	*20%*	*20 %*	*20 %*
Level 2	Apply Analyze	*20%*	*20%*	*20%*	*20%*	*20 %*	*20 %*
Level 3	Evaluate Create	*10%*	*10%*	*10%*	*10%*	*10 %*	*10 %*
	Total	100 %		100 %		*20%*	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. *Dr. Francis Zavier, Population Council, New Delhi. fzavier@popcouncil*	***1.*** *Dr. Godwin S K, University of Kerala & IHEPA,* ***godwinsk@yahoo.com***	*1. Dr D Narayana, Adj Professor, SRMIST* *2. Dr. Benson Thomas, Assoc Professor, SRMIST*

Course Code	PH23313T	Course Name	APPLICATION OF HEALTH ECONOMICS IN MONITORING AND EVALUATION	Course Category	PE	Professional Elective	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	Describe the functions, components and process of developing the M&E programs
CLR-2 :	Understand the process of implementing the M&E program and to know the possible challenges for implementation
CLR-3 :	Impart the knowledge about how to use qualitative and quantitative data to assess the program performance
CLR-4 :	Describe appraisal/assessment/evaluation and to familiarize with evaluation designs/frameworks
CLR-5 :	Understand the process appraisal of program's performance

Course Learning Outcomes(CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking	Expected Proficiency	Expected Attainment
CLO-1 :	Possess knowledge about the functions, components and process of developing the M&E	3	95	85
CLO-2 :	Clarity about process of M&E implementation and the possible challenges for implementation	3	90	80
CLO-3 :	Use qualitative and quantitative data to assess the program performance	3	90	80
CLO-4 :	Make appraisal/assessment/evaluation in M&E and evaluation designs/frameworks	3	90	80
CLO-5 :	Appraise the overall health and healthcare program performance	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental	Application of Concepts	Link with Related	Procedural Knowledge	Skills in Specialization	Ability to Utilize	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*

Duration (hour)		Introduction to Health Economics and Monitoring and Evaluation Plans (12)	Plan for Data Use and Integrated Practice in Development of Plan (12)	Tracking Results and Changes (12)	Appraising the Results (12)	Appraisal of Case Study (12)
S-1	SLO -1	Describe the Economic Way of Thinking about Health (1/2)	Creating plan of Data Use and Dissemination (1/2)	Define the Tracking of Results	Define the Program Appraisal and Assessment	Describe the Monitoring and Evaluation Case Studies (1/2)
S-2	SLO -1	Describe the Economic Way of Thinking about Health (1/2)	Creating plan of Data Use and Dissemination (2/2)	Understand the importance of Tracking the results	Describe the Program Evaluation	Describe Monitoring and Evaluation Case Studies (2/2)

Duration (hour)		Introduction to Health Economics and Monitoring and Evaluation Plans (12)	Plan for Data Use and Integrated Practice in Development of Plan (12)	Tracking Results and Changes (12)	Appraising the Results (12)	Appraisal of Case Studies (12)
S-3	SLO -1	Discuss about health programs	Recognizing the Capacity Needs for Implementation	Key Steps in Tracking the Program (1/2)	Standards for Good Evaluation (1/2)	Illustrate examples from Indian Context (1/2)
S-4	SLO -1	Discuss about health policies	Identification Constraints and its Analysis	Key Steps in Tracking the Program (2/2)	Standards for Good Evaluation (2/2)	Illustrate examples from Indian Context (2/2)
S-5	SLO -1	Define monitoring and evaluation Plan	Recognizing the Potential Solutions to the Constraints	Selection and Evaluation of Key Performance Indicators	Framework for Evaluation Designing (1/2)	Critically review economic appraisal of Programs (1/2)
S-6	SLO -1	Describe the review functions of monitoring and evaluation	Practical Examples	Developing a Data Collection Plan	Framework for Evaluation Designing (2/2)	Critically review economic appraisal of Programs (2/2)
S-7	SLO -1	Describe the Components of an M&E	Plans for Demonstrating the Program Effect (1/2)	Prepare Data Analysis Plan	Learn the Economic Impact Analysis	Critically review economic appraisal of policies (1/2)
S-8	SLO -1	Program Description in M&E, Understand the M&E Framework, Selection of Indicators	Plans for Demonstrating the Program Effect (2/2)	Plan for Evaluating and Interpreting the Results	Learn the Programmatic Cost Analysis	Critically review economic appraisal of Policies (1/2)
S-9	SLO -1	Identification of Data Sources for M&E	Practice with Examples	Prepare Dissemination Plan	Learn the Benefit Cost Analysis	Preparing a Model Plan for M&E (1/4)
S-10	SLO -1	Data Collection and Reporting Mechanism	Understand the Mechanism for Plan Updates	Learn the Quantitative Methods for Tracking Results and Changes	Learn the Cost-Effective Analysis	Preparing a Model Plan for M&E (2/4)
S-11	SLO -1	Class Presentation: M&E Framework (1/2)	Describe the Integrated Practice in Developing M&E Program	Understand the Quantitative Methods for Tracking Results and Changes	Discuss about other type of evaluation	Preparing a Model Plan for M&E (3/4)
S-12	SLO -1	Class Presentation: M&E Framework (2/2)	Practical on Integrated Practice in Developing M&E Program	Estimate the Cost and Challenges in M&E Plan Implementation	Choosing an Evaluation Design	Preparing a Model Plan for M&E (4/4)

Learning Resources	1. Huse, I., James C. McDavid, J.C., Hawthorn, R.L. (2006). Program Evaluation and Performance Measurement: An Introduction to Practice. London, England, United Kingdom: SAGE Publications Ltd. 2. Wholey, J.S., Hatry, H.P., Newcomer, K.E. (eds.). (2010). Handbook of Practical Program Evaluation. Third edition. Pp. 100-124. San Francisco, CA, USA: John Wiley & Sons, Inc. 3. Kusek, J.Z., Rist, R.C. (2004). Ten steps to a results-based monitoring and evaluation system : a handbook for development practitioners. Washington, DC, USA: World Bank. 4. Folland, S., A.C. Goodman and M. Stano, Economics of Health and Health Care,fifth edition, Pearson Prentice Hall, 2006	5. Gertler, P.J., Martinez, S., Premand, P., Rawlings, L.B., Vermeersch, C.M. (2016). Impact Evaluation in Practice, Second Edition. Washington, DC, USA: Inter-American Development Bank and World Bank. 6. Weiss, C.H. (1998). Evaluation: Methods for Studying Programs and Policies, 2nd Edition. Upper Saddle River, New Jersey, USA: Prentice Hall. 7. Issel, lM. (2014), Health Program Planning and Evaluation: A practical, systematic approach for community health, USA, Jones and Berlett Learning

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 2	Apply Analyze	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 3	Evaluate Create	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Total	100 %		100 %		*20%*	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
*1. **Dr. Francis Zavier, Population Council, New Delhi. fzavier@popcouncil***	*1. **Dr. Godwin S K, University of Kerala & IHEPA,** godwinsk@yahoo.com*	*3. Dr D Narayana, Adj Professor, SRMIST* *4. Dr. Benson Thomas, Assoc Professor, SRMIST*

Course Code	PH23314P	Course Name	SOFTWARE FOR HEALTH ECONOMICS ANALYSIS	Course Category	S	Skill Enhancement	L	T	P	C
							2	1	0	3

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning		
		1	2	3
CLR-1 :	Learn about statistical softwires and its application, basic functionaries, hands on experience			
CLR-2 :	Create an ability to management of various type of data through STATA			
CLR-3 :	Understand the skill of using data for the basic descriptive statistics, tabulation, statistical tests etc			
CLR-4 :	Inculcate advanced STATA syntax writing, data representation through graphs, diagrams, GIS maps			
CLR-5 :	Expertise various statistical and econometrics modelling using STATA application			

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Have a good knowledge about the scope of statistical softwires and its applications and functionaries	3	95	85
CLO-2 :	Acquirement of skills to management of various types/format of data, structural transformation	3	90	80
CLO-3 :	Familiarize with extracting descriptive statistics, two- and three-dimensional tables, statistical tests	3	90	80
CLO-4 :	Ability to write advanced syntax writing for single loops, nested loops etc., graphs and maps	3	90	80
CLO-5 :	Have ability to statistical and econometric analysis and also the dimensional reduction techniques	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related	Procedural Knowledge	Skills in Specialization	Ability to Utilize	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H

Duration (hour)		Introduction to Software for Economic Analysis (09)	Data Structure (09)	STATA Application on Basic Descriptive (09)	Programing and Developing Graphs (09)	STATA and Statistical Analysis (09)
S-1	SLO -1	Discussion about softwires useful for data analysis	Give description about STATA, its Windows, Menu Bar, Files	Data Frequency, Mean, Median, Mode etc.	Train to the Usage of If condition	Applying Chi-Square Test
S-2	SLO -1	Illustrate General Softwire: Excel (1/2)	Understand the Formatting of .dta Files and .do Files	Estimation of SD, Correlation	Generating single and nested loops	Performing the Regression (OLS, Logistics, Odds Ratio)
S-3	SLO -1	Illustrate General Softwire: Excel (2/2)	Creating Data Sets, Sub-sets.	Categorization of Quintiles and Percentiles, Cross Tabulation	Creation of Graphs – Line Graph, Scatter Plot, Histogram	Transformation of Variables, Diagnosing Heteroscedasticity, Autocorrelation
S-4	SLO -1	Discussion about Statistical Softwires: STATA	Explain about Data Importing from Different File Formats	T test (One Sample t Test, Independent two sample t Test, Paired Sample t Test)	Preparation of Combined Graphs	Testing Multicollinearity
S-5	SLO -1	Discussion about Statistical Software: SPSS and Others (1/2)	Describe the techniques about Data Cleaning, Coding, Labelling and Arranging	Cross-tabulation of two variables and statistical test	Formatting of graphs – Legend, Labels, Scales, Appearance etc.	Model Fit Statistics, Remedial Adjustments, Model Specification Errors
S-6	SLO -1	Discussion about Statistical Software: SPSS and Others (2/2)	Creating New Data Variables and Data Description, Describe Data Structure	Cross-tabulation of two discrete variables and statistical test	Creation of GIS Maps	Dimensionality reduction Techniques – Pre-requisite Tests, Principal Component Analysis
S-7	SLO -1	Describe about the GIS softwires	Illustrate- Adding Cases (Append) and Adding Variables (Merge)	Creating Publishable Tables in Microsoft Excel and Microsoft Word by using STATA Data	Formatting the maps - Legend, Labels, Scales, Appearance etc.	Using Factor Analysis -, Factor Extraction, Factor Rotation, Eigen Values, Factor Loadings.
S-8	SLO -1	Making GIS Maps using Online Softwires (1/2)	Illustrate: Condense the Data (Collapse) and Splitting the Data Variables (Split)	Practical Session (1/2)	Practical Session (1/2)	Practical Session (1/2)
S-9	SLO -1	Making GIS Maps using Online Softwires (2/2)	Change the Structure of Data, Identification of Data Duplicates, Data Exports to Various Formats	Practical Session (2/2)	Practical Session (2/2)	Practical Session (2/2)

Learning Resources	8. *Basic Econometrics by Gujarati D N, Porter D C, Sangeetha G, McGraw Hill Education publication, Fifth Edition, 2017*	9. *Stata: User guide, Version 17, Texas: Stata Press 2021*

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Create						
	Total	100 %		100 %		*20%*	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. ***Dr. Francis Zavier, Population Council, New Delhi. fzavier@popcouncil***	*1.* ***Dr. Godwin S K, University of Kerala & IHEPA,*** *godwinsk@yahoo.com*	*5. Dr D Narayana, Adj Professor, SRMIST* *6. Dr.Benson Thomas, Asso Professor, SRMIST*

Course Code	PH23315T	Course Name	Econometric models in public health	Course Category	C	Professional Core	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning		
		1	2	3
CLR-1 :	Perform regression analysis using STATA, SPSS and SAS	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLR-2 :	Learn the different linear regression models available along with their assumptions			
CLR-3 :	Learn the concepts of Multicollinearity, Heteroscadascity			
CLR-4 :	Understand the different Categorical Data Models along with their inference			
CLR-5 :	Learn basic concepts, models, methods, and applications in survival analysis			

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Appropriate regression techniques to address research questions and hypotheses	3	95	85
CLO-2 :	Testing whether the assumptions of the model are met	3	90	80
CLO-3 :	Perform different logistic regression analyses with multiple predictors using SPSS and SAS.	3	90	80
CLO-4 :	Use log-linear models to analyze contingency tables, use visual and other methods for assessing the adequacy of the fitted model	3	90	80
CLO-5 :	Perform different logistic regression analyses with multiple predictors using SPSS and SAS.	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H

Duration (hour)		Simple and Multiple Linear Regression Model (12)	Regression Diagnostics (12)	Logistic Regression Models (12)	Introduction to Categorical data and log linear models (12)	Introduction to survival analysis (12)
S-1	SLO-1	Description of Data types introcudction	Effect of Outliers in Simple Regression	Definitions and Setup of logistic functions, Logit	Categorical data, Review of Discrete distributions	Understand Survival analysis concepts
S-2	SLO-1	Define Estimation, Learn steps Test of Hypotheses	Understand Model Adequacy	Logistic fit, Interpretation of the Logistic Curve	Discover Inference of single population proportion	Evaluate Hazard Rate, Censoring, Truncation and Types of Censoring
S-3	SLO-1	Calculate Standard Errors , Interpret Standard Errors	Draw Residual Plots	Learn & apply Logit Models with Qualitative Predictors	Employ 2 way contingency table – sampling distribution	Definition of Survival Time and rate
S-4	SLO-1	Understand Analysis of Residuals,	Deletion of Data Points	Discriminant Analysis – concepts, models	Modify 2 way contingency table – attributes of sampling design	Evaluate Hazard Rate, Censoring, Truncation and Types of Censoring
S-5	SLO-1	Able to learn Predicted Values, Evaluation of Fit	Transformations of Variables	Multiple logit functions, models	Produce Risk estimates (OR,RR,AR)	Show Graphical representations

Duration (hour)		Simple and Multiple Linear Regression Model (12)	Regression Diagnostics (12)	Logistic Regression Models (12)	Introduction to Categorical data and log linear models (12)	Introduction to survival analysis (12)
S-6	**SLO-1**	**Description of Data and Model**	Transformation to Achieve Linearity	Understand Logit Models for Nominal Responses,	Relate 2x2 Measures of association, Schedule 2x2 Invariance properties	Dramatice Weibull distribution
S-7	**SLO-1**	**Interpretation of Coefficients**	Transformation to Stabilize Variance	Identify Cumulative Logit Models for Ordinal Responses	Learn Loglinear Models for Two-Way Tables	Estimate Survival Time by Life Table
S-8	**SLO-1**	**Properties of Least Square Estimators**	Removal of Heteroscedasticity	Dramtice Paired Ordinal Logits	Understand Loglinear Connections concepts	Learn Nonparametric: KM Methods
S-9	**SLO-1**	**Test of Hypothesis on the Linear Model**	Principle of ordinary Least Squares	Compute Nominal logistic regression	Modify Loglinear Models for Three-Way Tables	Comparison of Survival Time between subgroups using Log-Rank Test
S-10	**SLO-1**	**Qualitative Predictor Variables and their uses.**	Principle of Weighted Least Squares	Ordinal Logistic regression fit & interpretation	Interpret Nomial Association	Employ Modeling for Survival using Poisson Regression
S-11	**SLO-1**	**Fitting Multiple Linear Model**	Discover Cochran Mantel Haenszel methods	Binomial logistic regression fit & interpretation	Interpret Ordinal Association Employ Simple Log Linear Models	Estimate Survival Time by Life Table
S-12	**SLO-1**	**Problem Solving Exercises**	**Problem Solving Exercises**	**Problem Solving Exercises**	**Problem Solving Exercises**	Cox Proportional Hazards Model Fit

Learning Resources	1. *Regression analysis by example by S. Chaterjee and Ali S Hadi, John Wiley & Sons, New York, 4th Ed, 2006.* 2. Categorical data analysis, Alan Agresti. Wiley 2nd Ed, 2007. 3. 2.Survival analysis techniques for censored and truncated data, Klein JP, Moeschberger. Springer, 2003. 4. 3.Analysing categorical data. Jeffrey SS, Springer 2003.	5. *Applied Regression Analysis by Norman R Draper, harry Smith, Wiley Blackwell, 3rd Ed, 1998* 6. **Survival analysis: A self learning text, David GK, Mitchel K. Springer, 2nd Ed, 2008.** 7. **Introduction to the statistical analysis of categorical data. Anderson EB, Springer,1997** 8. **Modeling survival data in medical research, Collett D. Chapman & Hall, 2nd Ed, 2003.**

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts

1. Mrs. Anita Cecelia, Biostatistician, CTS, Chennai	*1. Dr. L. Jeyseelan, Dept of Biostatisitcs, CMC, Vellore*	*1. Dr.H. Gladius Jennifer, Asso.Prof, SRMIST* *2. Dr.M. Prakash, Asst. Prof, SRMIST*

Course Code	PH23316T	Course Name	EXPLORATION OF BIG HEALTH DATA	Course Category	PE	Professional Elective	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	Learn about the type of various secondary health data, data sources, data compilation and challenges
CLR-2 :	Understand the system data and survey data, secondary demography and population data
CLR-3 :	Impart the information about the health and healthcare data available at global, national and state level
CLR-4 :	Understand the concept of public healthcare financing data, sources of public health finance data
CLR-5 :	Learn about dimensions of quality of data, skill of measuring the quality of secondary health data through statistical softwires

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
		1	2	3
CLO-1 :	Have knowledge about secondary health data, sources, data compilation and challenges	3	95	85
CLO-2 :	Understand system and survey data of secondary demography and population at global to micro level	3	90	80
CLO-3 :	Have familiarity with secondary health and healthcare data that pertain to global, national and state level	3	90	80
CLO-4 :	Understand conceptual knowledge about public health finance, sources of public health finance data	3	90	80
CLO-5 :	Achieve knowledge about quality of data, measurement techniques and software application to measure	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related	Procedural Knowledge	Skills in Specialization	Ability to Utilize	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*

Duration (hour)		Secondary Data in Health and Healthcare (09)	Demography and Population Data (09)	Health and Healthcare Data (09)	Public Healthcare Financing Data (09)	Management of Health and Healthcare Data (09)
S-1	SLO -1	Describe about the Secondary Data	Describe the Demography and Population Data	Describe the Health and Healthcare Data (1/2)	WHO-Global Healthcare Expenditure Data Base (1/2)	Define the Levels of Data
S-2	SLO -1	Describe the advantages of secondary data	Explain Survey Data: NFHS	Describe the Health and Healthcare Data (2/2)	WHO-Global Healthcare Expenditure Data Base (2/2)	Lecture on Preparation of Suitable Data Sets
S-3	SLO -1	List out the type of Secondary Health Data	Explain Survey Data: DHS	Discuss WHO Health Data Sources (1/2)	Describe Indian Budget Data (1/2)	Understand the Data Quality – data Completeness and its Measurement
S-4	SLO -1	Discuss about Cross Sectional, Time Series Data	Discuss about Longitudinal Aging Study in India	Discuss WHO Health Data Sources (2/2)	Describe Indian Budget Data (2/2)	Discuss about the Data Consistency and its Measurement
S-5	SLO -1	Discuss about Panel and Longitudinal Data	Lectures on Health Management Information System	Explain about Global Burden of Disease Data	Explain the Components of Indian Budget Data	Discuss about Data Reliability and Its Measurement
S-6	SLO -1	Describe about Systems and Survey Data	Brief about SRS	Discuss about UNICEF's World's Children Statistical Data	Discuss Public Healthcare Expenditure Data (GOI)	Hands on Experience with Data Management (1/2)
S-7	SLO -1	Mention about the Ethics to Use the Secondary Data	Explain Indian Census	Explain about NSS-Health Round Data (1/2)	Discuss Public Healthcare Expenditure Data (Selected States)	Hands on Experience with Data Management (2/2)
S-8	SLO -1	Potential Challenges of Secondary Health Data (1/2)	Discuss Indian Census Data	Explain about NSS-Health Round Data (2/2)	Discuss about NHM related Data	Class Presentation on Data Sources
S-9	SLO -1	Potential Challenges of Secondary Health Data (2/2)	Describe about Population Data Available from UN	Discuss about Indian Human Development Survey Data	Illustrate the trends in Revenue and Capital Expenditures	Class Presentation on Data Quality

Learning Resources	1. Magnuson, JA, O'Carroll, Fu PC (2014), Public Health Informatics and Information Systems-Springer Publications 2. Reddy CK, Aggarwal CC (2015), Healthcare Data Analytics, CRC Press 3. National Family Health Survey: National http://rchiips.org/nfhs/ 4. Demographic and Health Surveys: https://dhsprogram.com/Data/ 5. District Level Health Survey: http://rchiips.org/ 6. Longitudinal Aging Study in India: https://www.iipsindia.ac.in/lasi 7. Building Knowledge Base on Ageing in India: http://www.isec.ac.in/BKPAI%20questionnaire%20-%20Individual%20%20Final%20July,%202013.pdf 8. Health Information Management System: https://hmis.nhp.gov.in/ 9. Sample Registration System: https://censusindia.gov.in/Vital_Statistics/SRS/Sample_Registration_System.aspx#:~:text=The%20SRS%20in%20India%20is,by%20a%20full%20time%20supervisor. 10. Civil Registration System: https://www.censusindia.gov.in/vital_statistics/crs/crs_division.html 11. Census India: https://censusindia.gov.in/ 12. UN Population Data Base: https://population.un.org/wpp/	13. WHO Data Base: https://www.who.int/data 14. World Bank Data Source: https://data.worldbank.org/ 15. Global Health Observatory Data: https://apps.who.int/gho/data/node.home 16. IHME Global Burden of Disease Data: https://www.healthdata.org/gbd/2019 17. Centre for Disease Control and Prevention Data: https://www.cdc.gov/datastatistics/index.html 18. UNICEF World Child Status Data: https://data.unicef.org/ 19. National Sample Survey Data: https://data.gov.in/dataset-group-name/national-sample-survey 20. Indian Human Development Survey Data: https://ihds.umd.edu/data/data-download 21. WHO Global Health Expenditure Data Source: https://apps.who.int/nha/database 22. World Bank Health Expenditure Data: https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS 23. Ministry of Health and Family Welfare Data: https://data.gov.in/resources/general-government-health-expenditure-percentage-gdp-2014-15-2019-20-ministry-health-and

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 2	Apply Analyze	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 3	Evaluate Create	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Total	100 %		100 %		*20%*	

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Francis Zavier, Population Council, New Delhi. fzavier@popcouncil	1. Dr. Godwin S K, University of Kerala & IHEPA, **godwinsk@yahoo.com**	*1.* Dr D Narayana, Adj Professor, SRMIST *2.* Dr. Benson Thomas, Assoc. Professor, SRMIST

Course Code	PH23321T	Course Name	Introduction to Health Communication, types of communication	Course Category	PE	Professional Core	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards		Nil	

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	Gain basic understanding of the theoretical rationale about Communication in general and Health Communication in particular
CLR-2 :	Understand the basic tenets of Human Communication, barriers to communication
CLR-3 :	Know about the importance of communication in health and healthcare; readability and comprehension
CLR-4 :	Able to assess the readability of materials,
CLR 5	Learn to develop tools for Advocacy

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning			Program Learning Outcomes (PLO)													
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
CLO-1 :	Understand the theoretical rationale about Communication in general and Health communication in particular	3	95	85	H	H	M	H	H	H	H	H	H	H	M	H	H	H
CLO-2 :	Have the knowledge about Role communication plays in health and healthcare delivery	3	90	80	H	H	M	H	H	H	H	H	H	H	M	H	H	H
CLO-3 :	Understand the effect effective communication in changing and Sustaining behavior	3	90	80	H	H	M	H	H	H	H	H	H	H	M	H	H	H
CLO-4 :	Develop a Strategic Communication Campaign for any Public Health related topic	3	90	80	H	H	M	H	H	H	H	H	H	H	M	H	H	H
CLO-5 :	Using tools for advocacy learn to develop materials for the media /Press.	3	90	80	H	H	M	H	H	H	H	H	H	H	M	H	H	H

Duration (hour)		Introduction to Health Communication (12)	Strategic Communication (12)	Health Journalism (12)	Social Change (12)	Advocacy and Communication (12)
S-1	SLO -1	Describe the changing context of communication in public health (1/2)	Basics of Strategic Communication	Media and Health: Current Status	Power of the Society in promoting behaviors: Useful and Harmful behaviors: Discussion	Basics of Advocacy
S-2	SLO -1	Describe the changing context of public health (2/2)	Situational Analysis for Health Communication	Role of Media houses on Health Communication	Power of the Society in promoting behaviors: Useful and Harmful behaviors Discussion	Role of Media in promotion of health agendas
S-3	SLO -1	Explain models in Health Communication	Situational Analysis	Community and Media	Power of the Society in promoting behaviors: Useful and Harmful behaviors: Discussion	Citizen's understanding of Health Advocacy: An activity

Duration (hour)		Introduction to Health Communication (12)	Strategic Communication (12)	Health Journalism (12)	Social Change (12)	Advocacy and Communication (12)
S-4	SLO -1	Use the Shannon Weaver Model to demonstrate effective communication	Setting the Context for Health communication	Barriers to serving Audiences	Social Change: Basics	Citizen's understanding of Health Advocacy: An activity
S-5	SLO -1	What are the barriers / enablers to effective Communication?	Focusing and Designing the Message	Science: Fact or Fiction	Processes of Social Change	Citizen's understanding of Health Advocacy: An activity
S-6	SLO -1	Attributes of an effective communicator _ Class Activity	Focusing and designing the message: Case study	Science: Fact or Fiction	Social Norms and media role	Citizen's understanding of Health Advocacy: An activity
S-7	SLO -1	Attributes of an effective communicator _ Class Activity	Creating the campaign: the Nuts and Bolts	Health Reporting through Mass Media	Behavior Change Communication in effecting social norms	Advocating for better Health through local / vernacular media
S-8	SLO -1	Case Study: Health Literacy Missouri	Successful campaigns	Health Promotion by Celebrities: Are we doing the right thing? Debate	Case Study:1	Power of the vernacular media
S-9	SLO -1	Discussion about the Case Study	Implementation of the Campaign	Health Promotion by Celebrities: Are we doing the right thing? Debate	Discussion of Case Study 1	Role of Social Media in changing norms
S-10	SLO -1	Case Study # 2 Livable Streets	Monitoring of the Campaign	Health Promotion by Celebrities: Are we doing the right thing? Debate	Discussion of NHM as an effective policy by GoI	Role of media and gender bias
S-11	SLO -1	Discussion of the CS # 2	Case Study: # 2	Responsible Journalism: Discussion	Discussion of NHM as an effective policy by GoI	Role of media and gender bias
S-12	SLO -1	Recap: What is Health Communication in your understanding	Discussion about the case study	Responsible Journalism: Discussion	Discussion of NHM as an effective policy by GoI	Case Study: Media and Gender Bias

Learning Resources	1. Mass Media and Health Communication in India Paperback	2. Schiavo. R. Health Communication: From Theory to Practice: 217 (Jossey-Bass Public Health)

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
Dr. Sugata Roy	*Dr. Sunitha Kuppuswamy*	*Ms. Geetha Veliah*

Course Code	PH23322t	Course Name	Strategic Communication in Health	Course Category	C	Professional Core	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLR-1 :	Describe the theories and concepts in Health Communication.			
CLR-2 :	Understand role of context in changing social norms and improving communication			
CLR-3 :	Behavior Change Communication - Basics			
CLR-4 :	Develop a campaign for behavior change			
CLR-5 :	Understand the role of strategic communication in Health protection			

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Understand about theories of public health communication	3	95	85
CLO-2 :	Have knowledge about strategies to change behaviors based on evidence	3	90	80
CLO-3 :	Understand the role of behavior in Health	3	90	80
CLO-4 :	Conceptual clarity on role of strategic communication in social change	3	90	80
CLO-5 :	Conceptual clarity of deriving and identifying indicators for Social Change	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related	Procedural Knowledge	Skills in Specialization	Ability to Utilize	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H

Duration (hour)		Concepts in Health Communication (12)	Strategic Communication (12)	Strategic Communication (12)	Strategic Communication (12)	Implementation and Monitoring (12)
S-1	SLO -1	Define the Concept Health Communication	Situation Analysis # 1	Audience Segmentation	Getting ready to create	Overview of implementation plans
S-2	SLO -1	Evolution of Health Communication	Situation Analysis # 2	Audience Segmentation: Activity	Getting ready to create: Activity	Implementation planning: Gantt Char
S-3	SLO -1	Basics of Strategic communication in Health	Situation Analysis # 3	Barriers and Facilitators of Change	Creative Briefs: An introduction	Planning activities: Stakeholder Meetings
S-4	SLO -1	Role of the Government in information dissemination about health &healthcare	Situational Activity : Groups	Barriers and Facilitators of Change: Activity	Uses of a creative brief	Planning activities: Team Meetings

Duration (hour)		Concepts in health communication (12)	Strategic Communication (12)	Strategic Communication (12)	Strategic Communication (12)	Implementation and Monitoring (12)
S-5	SLO -1	Role of the Government in information dissemination about health &healthcare	Situational Analysis: Group Activity	Developing Communication Objectives	Creative Brief: Activity	Indicators for Monitoring SBCC activities
S-6	SLO -1	Role of the Government in information dissemination about health &healthcare	Layers of Cause and Effect	Developing Communication Objectives: Activity	Creative brief: Discussion	Monitoring plan for SBCC campaigns
S-7	SLO -1	Discuss the structure of public health expenditure	Activity: Layers of Cause and Effect	Strategic Approach and Positioning	Effective Messages: An overview	Budgeting for SBCC
S-8	SLO -1	Discuss the growth of public health finance	People Analysis	Strategic Approach and positioning: Activity	Creating Effective Messages	Discussion of Budget Line items
S-9	SLO -1	Describe about Finance Commission	People Analysis Activity	Channel Activity and Material Mix	Creative Messaging: Activity	Presentation of Strategic Communication plan
S-10	SLO -1	Describe about NITI Ayog	Formative Research Gaps	Channel Activity and Material Mix: Activity	Creative Messaging : Discussion	Presentation of Strategic Communication plan
S-11	SLO -1	Lecture about public healthcare finance program	Communication Strategy Overview	Refinement of the Communication Strategy	Drafting and Reviewing materials	Presentation of Strategic Communication plan
S-12	SLO -1	Class Presentation: Theories of Public Expenditure and India Situation	Communication Strategy Exercise	Presentation of the Communication Strategy	Concept, Field Testing	Presentation of Strategic Communication plan

Learning Resources	1. C-Change (Communication for Change). 2012. C-Bulletins: Developing and Adapting Materials for Audiences with Lower Literacy Skills. Washington, DC: FHI 360/C-Change. 2. National Cancer Institute. 1989. Making health communications work: A planner's guide. Rockville, M D.: U.S. Department of Health and Human Services	3. .O'Sullivan, Gael, Joan Yonkler, Win Morgan, and Alice Payne Merritt. 2003. A field guide to designing a health communication strategy. Baltimore: Johns Hopkins Bloomberg School of Public Health/Center for Communications Programs. 4. Smith, Bill and John Strand. 2008. Social Marketing Behavior: A Practical Resourcefor Social Change Professionals. Washington, DC: AED.

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Create						
	Total	100 %		100 %		*20%*	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
Dr. Sugata Roy	*Dr. Sunitha Kuppuswamy*	*1. Geetha Veliah*

Course Code	PH23323T	Course Name	Social Media in Healthcare	Course Category	C	Professional Core	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

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Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning		
		1	2	3
CLR-1 :	Describe the role of journalism in Health Communication	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLR-2 :	Understand the audiences and barriers in serving the audience			
CLR-3 :	Understand the pitfalls of health reporting			
CLR-4 :	Understanding infodemics, flattening the infodemic			
CLR-5 :	Understand the role of vernacular press.			

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Possess knowledge about the health journalism.and the role in population health outcomes	3	95	85
CLO-2 :	Clarity about process regarding health journalism and how information is published in all portals of media	3	90	80
CLO-3 :	Understand information overload and infodemic	3	90	80
CLO-4 :	Develop an understanding of responsible journalism	3	90	80
CLO-5 :	Understand the role of vernacular press	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related	Procedural Knowledge	Skills in Specialization	Ability to Utilize	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H

Duration (hour)		Health and Media (12)	Audiences (12)	Scientific Fact or Science Fiction (12)	Pitfalls in Reporting (12)	Critical medical journalism (12)
S-1	SLO -1	About Health Journalism	Learning about Audiences for Print Media	Stakeholders in the News cycle	How to check validity of health or medical claims	The reporter source relationship
S-2	SLO -1	Health Journalism in India	Learning about Audiences for Television	Scientific Evaluation of the benefits of healthcare session 1	Identifying appropriate expert sources	Journalistic Standards
S-3	SLO -1	About various portals for health journalism	Learning about Audiences for the World Wide Web	Case Study 1: Discussion	Identifying appropriate expert sources	Backbone of Critical Medical Reporting: Do the claims seem credible?
S-4	SLO -1	Coverage of Health among major Media outlets	Learning about Audiences for Social Media	Scientific Evaluation of the benefits of healthcare session 2	Anecdotes vs systematic research	Backbone of Critical Medical Reporting: Are the claims supported by scientific evidence

Duration (hour)		Health Journalism (12)	Audiences (12)	Scientific Fact or Science Fiction (12)	Pitfalls in reporting (12)	Medical Journalism (12)
S-5	SLO -1	Major players in Health Journalism in the World	Learning about News production	Qualitative content Analysis: A primer	Distinguishing statistical significance with clinical significance	Backbone of Critical Medical Reporting: Is the evidence strong or weak?
S-6	SLO -1	Major Players in India	Learning about sources of information	Qualitative content Analysis: A primer	Distinguishing statistical significance with clinical significance	Backbone of Critical Medical Reporting: What is the best way to tell a true story?
S-7	SLO -1	Issues covered by Health Journalists	How are stories told	Qualitative content Analysis: A primer	Distinguishing statistical significance with clinical significance	Finding and using systematic reviews
S-8	SLO -1	Health Journalism during COVID 19 times	Writing a story for the Newspaper	Scrutinizing arguments and reasoning	Extrapolating from research to clinical practice	Self deception in reporting
S-9	SLO -1	Role of Mass Media and Public Health Communications in the COVID-19 Pandemic: Review and Discussion	Writing a health article for the newspaper	Scrutinizing arguments and reasoning	Misjudging risks	Tolerating and describing uncertainty
S-10	SLO -1	Role of Mass Media and Public Health Communications in the COVID-19 Pandemic: Review and Discussion	Barriers to serving the audiences	Reasons to question promising treatments/ Fads etc	Understanding the logarithmic risk scale and community risk deception	Investigating promotion of health and medical products
S-11	SLO -1	Role of Mass Media and Public Health Communications in the COVID-19 Pandemic: Review and Discussion	Conflicting interests	https://centerforhealthjournalism.org/content/covering-coronavirus-unequal-access-covid-treatments	Understanding the logarithmic risk scale and community risk deception: Activity	Investigating alternative medicine
S-12	SLO -1	Role of Mass Media and Public Health Communications preventing the pandemic in the future: Discussion	Professional ideals	Discussion of the Video	Discussion of the Activity	Investigating scientific fraud

Learning Resources	10. Levi.Ragnar: Medical Journalism: Exposing fact, fiction and fraud. Surjeet Publications. 2004	11. Improving the Quality of Health Journalism: When Reliability meets Engagement By Heini Maksimainen Reuters Institute Fellowship Paper, University of Oxford

Learning Assessment							
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Create						
	Total	100 %		100 %		*20%*	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
Dr. Sugata Roy	*Dr. Sunitha Kuppuswamy*	*Ms. Geetha Veliah*

Course Code	PH23324T	Course Name	Information Communicating to Public, stakeholders, Journalists	Course Category	C	Professional Core	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning		
		1	2	3
CLR-1 :	Understand the data as per the needs of the audience	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLR-2 :	Understand how to Communicate data as information for all stakeholders			
CLR-3 :	Understand the skill of interpreting data for the raising awareness, changing norms and creating policies			
CLR-4 :	Learn skills on how to communicate data for Public Health impact			
CLR-5 :	Understand the need to inform the public during acute public health situations.			
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:			
CLO-1 :	Have a good knowledge about the scope of using data to inform the public, and the media professionals	3	95	85
CLO-2 :	Acquirement skills on how to use data to write persuasive and informative articles	3	90	80
CLO-3 :	Familiarize with how data can be used to influence policies and policy makers	3	90	80
CLO-4 :	Learn to provide evidence-based arguments for better health coverage in the media	3	90	80
CLO-5 :	Have ability to use statistical data for crafting equitable policies.	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related	Procedural Knowledge	Skills in Specialization	Ability to Utilize	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*
H	*H*	*M*	*H*	*H*	*H*	*H*	*H*	*H*	*H*	*M*	*H*	*M*	*H*

Duration (hour)		Making Sense of Data (09)	Making Sense of Data (09)	General Audience Tendencies and Bias (09)	General Audience Tendencies and Bias (09)	Presenting Data (09)
S-1	SLO -1	Understanding the fundamentals of data : Quantitative data for media utilization	Policy Makers as Lay Audience	Public Understanding of quantitative findings	Resistance to persuasion	OPT-IN Framework
S-2	SLO -1	Understanding the fundamentals of data: Qualitative Data for media utilization	Policy Makers as Lay Audience	National Assessment of Adult Literacy (NAAL)	The Role of Emotion	OPT-IN Framework
S-3	SLO -1	Lay health beliefs and its role in perpetuating myths and misconceptions	Policy Makers as Lay Audience	Case Study: The Truth Campaign	Specific Numeric Bias / Correlation equals causation	OPT-IN Framework
S-4	SLO -1	Understanding Public as lay audience	Individual Characteristics	Discussion on the Truth Campaign	Determine whether data should be presented	OPT-IN Framework

Duration (hour)		Making sense of data (09)	Making Sense of data (09)	General Audience Tendencies and Bias (09)	General Audience Tendencies and Bias (09)	Presenting Data (09)
S-5	SLO -1	Public as Lay Audience	Occupational and Institutional Factors	Health Literacy and Common Mistakes	Select the type of statistic to portray	Overarching Issues
S-6	SLO -1	Social networks and Culture	Journalists as lay audience	General Tendencies: Cognitive Processing Limits / Satisficing	Addressing uncertainty	Role for Data in Health Messages
S-7	SLO -1	Social Networks and Culture	Individual Characteristics	Processing Risk information	Presenting Data: Knowledge Construction /Proximity / Continuation/ Closure	Case study in communicating Health data to lay audiences
S-8	SLO -1	Structural Factors	Occupational and Institutional factors	Framing	Integrating words / numbers / symbols / Verbal qualifiers of data	Discussion: Case Study
S-9	SLO -1	Regular Sources of Health information	Rationale for communicating data to lay audiences	Framing : A matter of perspective: Choosing "gain" or loss frame	Narratives / Instructing and informing with numbers	Discussion: Case Study

Learning Resources	1. Making data talk: Communicating Public Health Data to the Public, Policy Makers and the Press. David E Nelson, Bradford W. Hesse, Robert T. Croyle. Oxford University Press 2009	2. handbook of public communication of science and technology: Massimiano Bucchi, Brian Trench . Routledge Press 2008

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
	Create						
	Total	100 %		100 %		*20%*	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
Dr. Sugata Roy	*Dr. Sunitha Kuppuswamy*	*Ms. Geetha Veliah*

Course Code	PH23325T	Course Name	Soft skills in effective Communication*	Course Category	PE	Professional Elective	L	T	P	C
							3	3	0	6

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	To introduce software for effective communication
CLR-2 :	Learn to use MS office for effective communication
CLR-3 :	Learn how to infer SPSS outputs for behavior change
CLR-4 :	Learn Data visualization using GIS and Tableau
CLR-5 :	Understand the complementarity of software in health messaging

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Recognize strengths and weaknesses in articles, presentation and data published	3	95	85
CLO-2 :	Recognize the best software for the specific audience	3	90	80
CLO-3 :	Enhance SPSS understanding and inference of data	3	90	80
CLO-4 :	Communicate using software for better health outcomes	3	90	80
CLO-5 :	Utilize the appropriate software for appropriate audiences	3	90	80

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H
H	H	M	H	H	H	H	H	H	H	M	H	M	H

Duration (hour)		MS.Office (9)	MS Office (9)	SPSS (9)	GIS (9)	Tableau (9)
S-1	SLO-1	MS word – Create, save, edit and print the document	Learn basic math functions including SUM, ROUND and SUBTOTAL	Exploring of data view and variable view	Software available for Geographical Information Systems: Basics	Introduction to Tableau and its features
S-2	SLO-1	Font and paragraph formatting	Learn basic statistical functions including COUNT, COUNTA, AVERAGE, MAX, MIN, MEDIAN and MODE.	Demonstration of Coding the variables in SPSS	Understanding the basics of visualizations	Using Tableau with SPSS data
S-3	SLO-1	Inserting tables, smart art, page breaks, blank pages	Creating pivot tables, formatting and calculated fields in pivot tables	Exploring recode in to same and different variables, compute variables	Explain different types of Maps	Steps in operationalizing tableau
S-4	SLO-1	Inserting control bullets and numbering.Pictures and Clip Art	Power point – Create, save, edit and print the document,	Learning about Split file, select, IF conditions	Exercise: Number 1	Exploring Data through Tableau

Duration (hour)		MS.Office (9)	MS Office (9)	SPSS (9)	GIS (9)	Tableau (9)
S-5	SLO-1	*Learn line spacing, find / replace function Headers and Footers*	*Font, paragraph formatting, bulletins*	*Simple tables and graphical representation using SPSS*	*Differentiate symbolization in maps*	*Exercise 1: using tableau create tables*
S-6	SLO-1	*Page layout – Margins, paper orientation, size, using columns, paragraph spacing and printing*	*Inserting tables, smart art, pictures and clippings,*	*Statistical analysis by SPSS*	*Exercise # 2*	*Basics of visualization through Tableau*
S-7	SLO-1	*create your first Excel file, enter data and create a table.*	*Learning Design templates, customize ppt*	*Understanding SPSS outputs*	*Explain visual variable and color*	*Using workings in Tableau: Know more about dashboards*
S-8	SLO-1	*The Work Surface, Navigation, Formatting, basic math*	*Learning Animations, Slide show*	*Inferring data from SPSS into narratives*	*Exercise # 3*	*Exercise 2: Creating dashboards*
S-9	SLO-1	*Use to understand the anatomy of Excel functions, and what their components mean*	*Google drive – Doc, Excel and PPT*	*Making sense of SPSS data through activity.*	*Discussion*	*Discussion*

Learning Resources	1. *SPSS in Simple Steps Kindle Edition by Kiran Pandya (Author), Smruti Bulsari (Author), Sanjay Sinha (Author)* 2. *Tableau for Dummies: Molly Monsey and Paul Sochan*	3. *Microsoft Office 365 – 15 Books in 1: The Step by Step Guide to Learning Quickly the Entire Office Package Suite (Excel, Word, Power Point ecc.) | From beginner to advanced in 7 minutes a day | by Freddy Beverly Kindle Edition*

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember / Understand	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
Level 2	Apply / Analyze	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 3	Evaluate / Create	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Total	100 %		100 %		100%	

Course Designers

Experts from Industry: Dr. Sugata Roy	Experts from Higher Technical Institutions: Dr. Sunitha Kuppuswamy	Internal Experts: Dr. Prakash

Course Code	PH23326T	Course Name	Public Health Informatics	Course Category	S	*Skill Course*	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Co-requisite Courses	Nil	Progressive Courses	Nil
Data Book / Codes/Standards	Nil			

Course Learning Rationale(CLR):	*At the end of this course, learners will be able to:*	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLR-1 :	*Obtain basic understanding about different information systems, components of information Systems*			
CLR-2 :	*Understanding basics of Management Information Systems, EHR, and EMR*			
CLR-3 :	*Obtain understanding of Public Health Information Systems like IDSP, NHM*			
CLR-4 :	*Obtain understanding indicators, monitoring and evaluation*			
CLR-5 :	*Obtain understanding about roles of AI in Public Health Information System*			

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	*Explain the basics of information systems along with its components*	*1*	*90*	*80*
CLO-2 :	*Explain and develop a mock MIS, EHR, and EMR*	*3*	*85*	*75*
CLO-3 :	*Describe the PHI systems with technical inputs*	*2*	*70*	*65*
CLO-4 :	*Develop indicator for evaluation of MIS*	*2*	*85*	*75*
CLO-5 :	*Describe role AI in PHIS*	*3*	*85*	*75*

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	*L*	*M*	*L*	*L*	*-*	*L*	*-*	*L*	*L*	*-*	*-*	*-*	*H*
M	*H*	*M*	*M*	*H*	*M*	*L*	*M*	*H*	*M*	*-*	*H*	*-*	*M*
M	*H*	*M*	*H*	*L*	*-*	*L*	*-*	*M*	*L*	*-*	*M*	*-*	*-*
H	*M*	*H*	*M*	*M*	*L*	*L*	*-*	*L*	*L*	*-*	*M*	*-*	*-*
H	*H*	*H*	*H*	*M*	*H*	*L*	*H*	*M*	*L*	*-*	*H*	*-*	*H*

Duration (hour)		Introduction to Public Health Informatics (6)	Surveillance data handling (6)	Public Health Informatics systems Development (6)	Evaluation for Public Health Informatics (6)	Information Technology Systems Topics (6)
S-1	SLO-1	*Understanding the Basic concepts of Informatics*	*Understanding the basics of surveillance system*	*Understanding the basics of Statistics*	*Understanding the basic need for Evaluating Public health informatics*	*Understanding the need for AI in informatics*
S-2	SLO-1	*Explaining Different Information systems and its purpose*	*Overview of EHR*	*Overview of the Probability and distributions*	*Overview of Standards and Benchmarks in Public Health Informatics*	*Understanding current trend in Health informatics*
S-3	SLO-1	*Understanding Components of information system*	*Understanding different sources of data and data tools available*	*Recall the concept of Descriptive and*	*Understanding types of evaluation in PHI*	*Demonstrate surveillance system in India*
S-4	SLO-1	*Understanding Management information systems (MIS)*	*Clarifying basic concepts of database management*	*Recall the concept of summary statistics*	*Demonstrating Protocol development for evaluation of informatics*	*Explain the need of AI in addressing the Gaps in Surveillance system*

Duration (hour)		Introduction to Public Health Informatics (6)	Surveillance data handling (6)	Public Health Informatics systems Development (6)	Evaluation for Public Health Informatics (6)	Information Technology Systems Topics (6)
S-5	SLO-1	*Understanding Levels of MIS*	*Understanding the Privacy, security and Ethical issues with Health data*	*Recall the concept of Descriptive and summary statistics for multiple groups*	*Developing the indicator for the evaluation framework*	*Practical session on Developing information system*
S-6	SLO-1	*In depth understanding MIS*	*Clarifying Ethical issues for data and interpretation*	*Demonstration on generating tables*	*Demonstrate the Outcome assessment and tools for it*	*Practical session on Developing information system*

Learning Resources	1. *Public Health Informatics and Information Systems Magnuson, J.A., Fu, Jr., Paul C. (Eds.) 2nd ed. 2014, XVIII, 666 p. 114 illus., 35 illus. in color.* 2. *Fried, A. and O'Carroll, P.W. (1998) "Public Health Informatics." In Last, J.M.(ed) Maxcey-Rosenau- Last Public Health & Preventive Medicine, 14th ed. Pp. 59-65. Appleton and Lange, Norwalk, CT.*	3. *Stair, R.M., & Reynolds, G.W. (2001). Principles of Information Systems 7th Edition Cambridge, MA: Course Technologies*

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
Level 2	Apply Analyze	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 3	Evaluate Create	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Total	100 %		100 %		100%	

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Mr.Suresh Mariaselvam, Independent Consultant, Chennai	*1. Dr.GaneshKumar Parasuraman, Scientist C, ICMR-NIE*	*1. Dr.M Prakash , Asst prof , SRMIST*

Course Code	PH23331T	Course Name	EMERGENCIES AND DISASTER DIMENSIONS	Course Category	PE	Professional Elective	L	T	P	C
							2	1	0	3

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	To learn and understand the disaster management concepts and its components
CLR-2 :	To understand disaster risk assessment and implementation of DRM Plan
CLR-3 :	To study Relief operations in complex emergencies, need analysis, Recovery and rehabilitation.
CLR-4 :	To develop understanding in preparedness in public health consequences of disaster and its impacts.
CLR-5 :	To understand community needs through need assessment and health assessment.

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Familiarize with the concepts, terminologies in the field of Disaster Management.	2	80	70
CLO-2 :	Assess disaster risk and prepare DRM Plans and how to implement them.	3	85	75
CLO-3 :	Understand the Post disaster issues in recovery and rehabilitation.	2	80	70
CLO-4 :	Approaches and Strategies of Public Health in Disasters.	3	85	80
CLO-5 :	Addressing the needs of the community.	3	85	75

Program Learning Outcomes (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	14	15
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	H	M	H	M	-	-	-	L	L	-		-	-
M	H	L	M	M	-	-	-	M	L	-	H	-	-
H	M	M	H	H	-	-	-	M	L	-	H	-	-
M	H	M	H	M	-	-	-	M	L	-	H	-	-
H	H	M	H	M	-	-	-	M	L	-	H	-	-

SL.NO	SLO	12	12	12	12	12
1	SLO	Disaster Management Concepts and the scope, History of disasters	Assessing Disaster Risk - Disaster Risk and Damage potential of disasters	Complex emergencies;	Disaster Dimensions,	Needs assessment - Community Needs Assessment
2	SLO	Components of disaster	Ways of minimizing disaster risk – Preparedness, Mitigation and Prevention – definition	Relief Operations - Role of NGOs and Health workers in relief operations;	Outbreaks,	Survey Methodology
3	SLO	Dimension of disasters; Phases of disaster	concept and specific interventions in minimizing disaster	Maintaining law and order- Ethical and Legal Considerations in Public Health Disasters;	Public health consequences of disaster	Nutrition Centered Health Assessment
4	SLO	Hazard – Definition; types of hazards	Disaster Risk Management (DRM) plan	Recovery – Rehabilitation	Psychosocial impact of disaster	Health, Nutrition and WASH.
5	SLO	characteristic features, occurrence of hazards	Preparing Hazard-Vulnerability profile; Stakeholder analysis;	- Damage Assessment;	Economic impact of disaster	SPHERE standards
6	SLO	impact of different types of hazards;	Implementing DRM plan –	Need analysis of disaster affected people;	Mental Health in Disaster	Study on IDPs

SL.NO	SLO	12	12	12	12	12
7	SLO	Vulnerability – Definition; Types of vulnerability	Sharing DRM plan with all stakeholders;	Restoration of basic amenities;	Early warning system,	Study on Refugees
8	SLO	Disaster Management Cycle;	Division of Roles and responsibilities as per DRM plan	Reconstruction	Preparedness	Life course approach
9	SLO	Disaster Risk – Definition	Resource mobilization	Restoration of operations of the service sector.	Epidemiological Surveillance	Cluster approach,
10	SLO	Significance of Disaster Risk	Monitoring and Evaluation;	Documentation - Documenting stages under DM plan	Essential Health Services	Preparedness at household
11	SLO	Factors of disaster risk	Role of Risk transfer and insurance in DRM	Updating DRM Plan for risk mitigation	Control of communicable diseases	Preparedness at community level
12	SLO	Disaster Risk analysis	Insurance in DRM	Monitoring and evaluation	Monitoring and Evaluation	community and global level case studies

Learning Resources	1. *Natural Hazards and Disaster Management: Vulnerability and Mitigation -R B SinghRawat Publications* 2. *Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.* 3. *Centers for Disease Control and Prevention. Public Health Emergency Response Guide for State, Local, and Tribal Public Health Directors. Version 2.0. (2014)*	4. *Liddell MK, Prater CS, Perry RW, Nicholson WC. Fundamentals of Emergency Management. FEMA, 2006.* 5. *Johns Hopkins and Red Cross/Red Crescent. Public Health Guide for Emergencies. The Johns Hopkins School of Public Health.*

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100%	

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Mr.Anandakuar, General Manager, TNSDMA	*1. Dr. S.Sanjeevi Prasad, Associate Professor, sanjeevi.geo.unom@gmail.com*	*1. Dr.K.S.Vignesh, SRMIST*

Course Code	PH23332 T	Course Name	HEALTH EMERGENCIES AND DISASTER MANAGEMENT	Course Category	PE	Professional Elective	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	*To understand additional health systems, their infrastructure and services during emergency*
CLR-2 :	*To study planning of emergency health services and facility-based health care*
CLR-3 :	*Describe mental health and psychosocial support during emergencies*
CLR-4 :	*Explain various emerging and non-emergency diseases in emergency setting*
CLR-5 :	*To understand community involvement in prevention of diseases related to WASH*

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning			Program Learning Outcome (PLO)													
		1	*2*	*3*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*14*	15
		Level of Thinking (Bloom)	*Expected Proficiency (%)*	*Expected Attainment (%)*	*Fundamental Knowledge*	*Application of Concepts*	*Link with Related Disciplines*	*Procedural Knowledge*	*Skills in Specialization*	*Ability to Utilize Knowledge*	*Skills in Modeling*	*Analyze, Interpret Data*	*Investigative Skills*	*Problem Solving Skills*	*Communication Skills*	*Analytical Skills*	*Professional Behavior*	Life Long Learning
CLO-1 :	*Identify and obtain additional health systems, resources and services during emergencies.*	*3*	*80*	*70*	*H*	*M*	*-*	*H*	*H*	*-*	*-*	*-*	*L*	*L*	*-*	*H*	*-*	*-*
CLO-2 :	*Design appropriate facility-based and community-based health services;*	*3*	*85*	*75*	*M*	*H*	*L*	*M*	*M*	*-*	*-*	*-*	*M*	*L*	*-*	*H*	*-*	*-*
CLO-3 :	*Recognize the mental health problems and psycho-social suffering caused by disasters*	*2*	*75*	*70*	*M*	*H*	*M*	*H*	*M*	*-*	*-*	*-*	*M*	*L*	*-*	*H*	*-*	*-*
CLO-4 :	*Implement the effective ways of preventing outbreaks of communicable diseases;*	*3*	*85*	*80*	*H*	*H*	*M*	*H*	*H*	*-*	*-*	*-*	*M*	*L*	*-*	*H*	*-*	*-*
CLO-5 :	*Explain the relationship between the environment and water, sanitation and hygiene related diseases*	*2*	*85*	*75*	*H*	*H*	*M*	*H*	*M*	*-*	*-*	*-*	*M*	*L*	*-*	*H*	*-*	*-*

SL.NO	SLO	Health Systems and Infrastructure (9)	Emergency health services (9)	Emergency mental health and psychosocial support (9)	Control of communicable diseases (9)	Water, Sanitation and Hygiene in emergencies (9)
1	SLO	Prioritizing health services during emergencies	Introduction; Resilient Health Systems and Infrastructure	Stressors, protective factors, r in emergencies	Communicable diseases as public health threats;	Diseases related to water, sanitation and hygiene
2	SLO	Supporting national and local health systems- Coordination	Planning Emergency Health services	mental health disorder in emergencies	Principles of communicable disease control	Community involvement in disease prevention and mitigation
3	SLO	Primary Healthcare services	Mass casualty management	General measures and psychosocial support;	General approach to setting up disease control programmes;	Improving environmental conditions;
4	SLO	Clinical Service in disaster scenario	Emergency medical care	Risk factors and intervention strategies;	Major disease in emergency settings;	Excreta disposal; Water quantity and Water quality
5	SLO	Health Information System Human resources	Mass event with long-term major implications	The minimum initial services package (MISP)	Major disease in non-emergency settings	Hygiene and Food safety

SL.NO	SLO	Health Systems and Infrastructure (9)	Emergency health services (9)	Emergency mental health and psychosocial support (9)	Control of communicable diseases (9)	Water, Sanitation and Hygiene in emergencies (9)
6	SLO	Provision of additional health systems	Mass event of immediate, limited implication;	Steps to be taken to provide in case of mental stress in emergencies.	Diseases from the animal sector	Vector borne diseases control; Solid waste management
7	SLO	Coordination among various systems	Intermediate events causing temporary displacement;	Stakeholder partnership	Other emerging diseases	Drainage Lineation;
8	SLO	Financial management for humanitarian response	Managing essential drug supplies	Maternal health and safe motherhood	Community involvement	Water and sanitation in cholera outbreak response;
9	SLO	Monitoring and evaluating the systems	Post emergency phases.	Infant and young child feeding in emergencies	Monitoring, evaluation and research for disease control programmes	Planning guidelines for institutions

Learning Resources	1. *International Federation of Red Cross and Red Crescent Societies, 1997. Handbook for Delegates.* 2. *UNICEF. Assisting in Emergencies: A resource handbook for UNICEF field staff. Prepared by Ron Ockwell, 1986.* 3. *The Johns Hopkins, Red Cross and Red Crescent "Public Health Guide in Emergencies" Second Edition (2008), International Federation of Red Cross and Red Crescent Societies, Switzerland*	4. *Steve Peak and Paul Fischer. Media Guide 1999. Published by Fourth Estate Dennis Barker. The Craft of the Media Interview. Published by Robert Hale.* 5. *International Federation of Red Cross and Red Crescent Societies. Guide for Communication.* 6. *The Johns Hopkins, Red Cross and Red Crescent "Public Health Guide in Emergencies" First Edition, International Federation of Red Cross and Red Crescent Societies, Switzerland*

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100%	

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Mr.Suresh Mariaselvam, Independent Consultant, Chennai	*1. Dr. Sushma, Guleria Associate Professor,NIDM, sushma.nidm@nic.in*	*1. Dr.K.S.Vignesh, SRMIST*

Course Code	PH23333T	Course Name	EPIDEMIC AND PANDEMIC PREPAREDNESS AND RESPONSE	Course Category	PE	Professional Elective	L	T	P	C
							2	2	0	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards		Nil	

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLR-1 :	Understand factors contributing to emerging and Remerging diseases			
CLR-2 :	Build skills in disease outbreak investigation, control and prevention			
CLR-3 :	Identify and analyse different types of disease surveillance models			
CLR-4 :	Define Criteria for pandemic diseases thresholds and their determinants			
CLR-5 :	Identify standards for pandemic preparedness planning and execution			

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Program Learning Outcome (PLO)													
					1	2	3	4	5	6	7	8	9	10	11	12	13	14
					Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
CLO-1 :	Early detection and prompt response to outbreak situation	2	85	70	L	H	L	H	M	M-	M	H	L	L	-	H	M	-
CLO-2 :	Evaluate various disease surveillance systems in terms of set quality standards	1	70	85	M	H	L	M	L	-	M	M	M	L	M	H	-	M
CLO-3 :	Examine models of early warning and response systems for diseases of epidemic potential	2	75	75	M	M	M	H	L	M	M	L	M	L	-	H	M	-
CLO-4 :	Implement Epidemic/pandemic preparedness plan with inter-sectoral coordination	3	85	80	M	H	M	H	L	M	M	H	M	L	M	H	-	M
CLO-5 :	Adopt Early warning and response strategies for outbreak prevention	3	70	75	H	H	M	H	L	L	L	H	M	L	-	H	L	-

Duration (hour)		Emerging and re-emerging diseases (9)	Outbreak investigation (9)	Disease surveillance (9)	Pandemic disease (9)	Pandemic preparedness (9)
S-1	SLO	Introduction to Emerging diseases	To explain Definition of outbreak, criteria for establishing outbreak	To elaborate Concept and types of surveillance	Introduction to pandemic disease	To describe Developing early warning systems in pandemic preparedness
S-2	SLO	To understand Emerging diseases	To discuss Steps of outbreak investigation	To explain Concept and types of surveillance	To describe Influenza epidemiology	To discuss Developing early warning systems in pandemic preparedness
S-3	SLO	Case study on emerging diseases	Application in Steps of outbreak investigation	To understand Surveillance, Surveillance design, IDSP,	To understand how diseases become pandemics	To describe Rapid response teams
S-4	SLO	Introduction to Remerging disease	To describe Prevention of outbreaks	To describe Surveillance evaluation	To discuss Impact of pandemic to global security and economics	To understand Capacity building

Duration (hour)		Emerging and re-emerging diseases (9)	Outbreak investigation (9)	Disease surveillance (9)	Pandemic disease (9)	Pandemic preparedness (9)
S-5	SLO	Review on Remerging disease	Review on Prevention of outbreaks	To understand Components of surveillance system	To discuss WHO pandemic stages	To describe Importance of training
S-6	SLO	Case study on emerging diseases	To describe Trigger alerts, principles and methods of investigations of food, water air borne outbreaks	To elaborate EWARS, Indicator based surveillance, event based surveillance system	To describe Implementation of pandemic stages	To explain Importance of rumor reporting
S-7	SLO	To describe Factors that favor emergence of new diseases	To describe principles and methods of investigations of food, water air borne outbreaks	To understand Indicator based surveillance, event based surveillance system	To discuss International health regulations	Case study on capacity building and rumor writing
S-8	SLO	To discuss Factors that favor emergence of zoonotic diseases	To elaborate principles and methods of investigations of vector borne outbreaks	Application of big data and artificial intelligence as early warning systems	To understand National health regulations	To describe Public health emergencies of international concern
S-9	SLO	Overview of most common emerging and re-emerging diseases	Case study on outbreak investigation	Application of big data and artificial intelligence as early warning systems	Case study on pandemic disease	Overview of pandemic preparedness

Learning Resources	1. Principles of Epidemiology in Public Health Practice Third Edition. An Introduction to Applied Epidemiology and Biostatistics 2012. Third edition. U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES Centers for Disease Control and Prevention (CDC) Office of Workforce and Career Development Atlanta, GA 30333 2. WHO.International Health Regulations (2005 & 2007)	3. Integrated Disese Surveillance Programmehttps://idsp.nic.in/index.php 4. WHOPandemic Preparedness and Response https://www.who.int/csr/disease/swineflu/guidance/pandemic_preparedness/en/ 5. Epidemic and Pandemic Preparedness and Response, international Red cross, 2015

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)
		CLA – 1 (25%)		CLA – 2 (25%)		
		Theory	Practice	Theory	Practice	Theory
Level 1	Remember	15%	15%	15%	15%	20%
	Understand					
Level 2	Apply	15%	20%	20%	20%	15%
	Analyze					
Level 3	Evaluate	20%	15%	15%	15%	15%
	Create					
	Total	100 %		100 %		-

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr. Jayaprakash Muliyil, ICMR scientific advisory committee , jpmuliyil@gmail.com	1. Dr. Vijay Gopichandran. ESIC Medical College and PGIMSR, vijay.gopichandran@gmail.com	1. Dr. Rajan Patil, SRMIST 2. Dr. Alex Joseph, SRMIST

Course Code	PH23334T	Course Name	EMERGENCY, HUMANITARIAN AND INCIDENT RESPONSESYSTEM	Course Category	PE	Professional Elective	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	Obtain basic understanding about the emergency operational procedures and strategies
CLR-2 :	Secure familiarization about various communication systems and its role in disaster management
CLR-3 :	Utilize knowledge to assess the risk in Communication during disasters
CLR-4 :	Understand the approaches and roles of social media in any disaster situation
CLR-5 :	Utilize understanding to address various policies and frame work on disaster risk

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning		
		1	2	3
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
CLO-1 :	Understand the emergency operational procedures and strategies	1	85	75
CLO-2 :	Familiarize various communication systems and its role on disaster management	2	90	80
CLO-3 :	Assess the risk in Communication during disasters	3	85	75
CLO-4 :	Approaches and roles of social media in any disaster situation	2	80	70
CLO-5 :	Address various policies and frame work on disaster risk	2	80	70

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	14	15
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	L	L	-	L	-	L	-	L	L	L	-	L	-
M	L	L	L	H	M	L	-	H	M	L	-	M	-
M	M	M	M	H	H	L	-	M	L	L	-	L	M
H	M	M	L	M	-	L	-	L	L	L	-	L	-
M	H	M	M	H	H	L	-	M	L	L	-	L	M

Duration (hour)		Emergency Response (12)	Communication System (12)	Communication risk (12)	Media and Public Affairs (12)	DRR using GIS and RS (12)
S-1	SLO-1	Understanding the basics of Emergency response	Conceptualizing the relationship between Disaster and Communication	Familiarize the basics of Risk Communication	Media and Public Affairs	Familiarizing concepts of Risk Management
S-2	SLO-1	Insights about Standard Operation Procedure (SOP) for disaster response;	Role of Communication in Disaster	Overview of the various Models of Risk Communication	Theoretical overview of Role of Media in Disaster Management	Understanding concepts associated with living with Risk
S-3	SLO-1	Overview of Information Management System	Understanding Disaster Communication as an Area of Study	Basic theoretical understanding of Risk Communication	Role of Media in Humanitarian Crisis	Clarifying Policy Perspectives in Risk Management

Duration (hour)		Emergency Response (12)	Communication System (12)	Communication risk (12)	Media and Public Affairs (12)	DRR using GIS and RS (12)
S-4	SLO-1	*Warning Dissemination*	*Clarifying basic concepts related to Nature of Communication*	*Impart the importance of Risk Reduction Communication Cycle and its components*	*Clarifying objectives of Mass Media Ethical Issues in Disaster Communication*	*Sendai Framework for Disaster Risk Reduction*
S-5	SLO-1	*Aquiring knowledge about Evacuation, Search and Rescue operations*	*Clarifying basic concepts related to Scope of Communication*	*Disaster Warnings as Risk Communication*	*News Media Coverage of Disaster*	*Improve awareness about Conflict Resolution through Collaboration and Consensus*
S-6	SLO-1	*In depth understanding of Relief operations*	*Sender and Receiver Oriented Views*	*Clarifying basic concepts of Risk Perception*	*Biases and Stereotypes in Media and Public Affairs*	*Citizens Forum*
S-7	SLO-1	*Overview of Emergency Operation Center (EOC)*	*In-depth understanding about Models and Processes of Communication*	*Hazard Awareness*	*Basics of Reporting on Disaster including Issues and Challenges, Newsworthiness News Treatment,*	*Overview of Public Voices and Public Sphere*
S-8	SLO-1	*Imparting knowledge about basics and importance of Resource Management & Networking in India*	*Understanding about Models and Processes of Communication as Applied to Disaster Management*	*Conceptualizing Hazard Awareness as Risk Communication*	*Theoretical overview of Phases of Disaster Reporting*	*Clarifying about Social Justice Challenges in disaster communication*
S-9	SLO-1	*Gaining insights about Disaster Resource Network and its functioning*	*Conceptualization Models and Processes of Communication as Applied to Disaster Management*	*Overview of Cultural Influences on Risk Communication*	*Gaining knowledge about sources of news*	*Media Advocacy for Disaster Management*
S-10	SLO-1	*Role of Disaster Response Forces*	*Seven Traditions of Communication*	*Theoretical overview of Cultural Cognition Theory of Risk*	*Overview of Checklist for Disaster Reporting including Media Relations during emergency Situations*	*Resilience in the context of disaster risk*
S-11	SLO-1	*Role Community Based Organisations (CBO) in emergency response mechanism*	*Comprehending the relevance of Seven Traditions to Disaster Management*	*Gaining insights of various approaches to Influencing Hazard Adjustment*	*Overview of Alternative Media During Crisis*	*Overview of need for Building Resilience in the area of Disaster Risk*
S-12	SLO-1	*Incident Response System*	*Normative Perspective on Disaster Communication*	*Various approaches to influencing Hazard Adoption*	*Equip with knowledge about Tools for Social Media including knowledge about Applications and Use of Ushahidi and Google Maps*	*Case Study: Disaster management and risk communication through case studies*

Learning Resources	1. *Calif, T. O., "Effective Health Risk Messages: A Step-By-Step Guide. 1st Edition SAGE Publications, Inc. 2001* 2. *Singh, R. "Risk Communication: A Handbook for Communicating Environmental, Safety, and Health". Oxford University Press Pvt. Ltd. (2016)*	3. *Heinemann, B. (2014), "Disaster Communications in a Changing Media World" 2nd Ed. Amsterdam* 4. *Disasters and the Media. (2012) Peter Lang Publishing Inc.*

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember Understand	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
Level 2	Apply Analyze	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 3	Evaluate Create	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr.Yuvaraj, TNSDMA, yuvaerd22@gmail.com	*1. Dr.Surya Prakash, Professor and Head, surya.nidm@nic.in*	*1. Dr.K.S.Vignesh, SRMIST*

Course Code	PH23335T	Course Name	GEO-SPATIAL TECHNOLOGIES IN HEALTH EMERGENCIES AND DISASTERS	Course Category	S	*Skill Enhancement*	L	T	P	C
							3	2	0	5

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*
CLR-1 :	*Obtain basic understanding about physical principles and sensing process in remote sensing.*
CLR-2 :	*Utilize various GIS and navigation tools and techniques to handle spatial and non-spatial database*
CLR-3 :	*Obtain understating about datums, coordinate systems, differential positioning concepts and associated techniques.*
CLR-4 :	*Utilize knowledge to differentiate type of sensors, characteristics and different data acquisition techniques.*
CLR-5 :	*Utilize geospatial techniques for disaster management and disaster risk reduction*

Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*	Learning			Program Learning Outcome (PLO)												
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
CLO-1 :	*Explain the physical principles and sensing process in remote sensing.*	*1*	*90*	*80*	*H*	*L*	*M*	*L*	*L*	-	*L*	-	*L*	*L*	-	-	-	*H*
CLO-2 :	*Describe various GIS and Navigation tools and techniques within spatial analytical framework and handle spatial and non-spatial database.*	*3*	*85*	*75*	*M*	*H*	*M*	*M*	*H*	*M*	*L*	*M*	*H*	*M*	-	*H*	-	*M*
CLO-3 :	*Explain various datums, coordinate systems, differential positioning concepts and associated techniques.*	*2*	*70*	*65*	*M*	*H*	*M*	*H*	*L*	-	*L*	-	*M*	*L*	-	*M*	-	-
CLO-4 :	*Differentiate the type of sensors, characteristics and different data acquisition techniques.*	*2*	*85*	*75*	*H*	*M*	*H*	*M*	*M*	*L*	*L*	-	*L*	*L*	-	*M*	-	-
CLO-5 :	*Apply integrated geospatial techniques in disaster management and disaster risk reduction.*	*3*	*85*	*75*	*H*	*H*	*H*	*H*	*M*	*H*	*L*	*H*	*M*	*L*	-	*H*	-	*H*

Duration (hour)		Basics of Remote sensing (12)	Basic Concepts of GIS (12)	Satellite positioning system – An overview (12)	Data Acquisition (12)	Risk management (12)
S-1	SLO-1	Understanding the basic concepts of Remote Sensing including History and Development	Global Information System: Definition, Philosophy & Historical evolution of GIS	Overview of Global Navigation Positioning System	Overview of Platforms including Balloon, Rocket, Helicopter, Aircraft and Spacecraft	Practical 1-4: Basic concepts of Hazard Evaluation
S-2	SLO-1	Gaining knowledge about Remote Sensing including Definition, Concept and Principles	Understanding the components of GIS	Various Global/Regional Satellite constellations	Satellites and Sensors	Practical 1-4: Basic Concepts of Zonation
S-3	SLO-1	Electromagnetic Radiation (EMR) and Its Characteristics	Spatial data and non-spatial data	NAVSTAR GPS signals, Geo-positioning including Basic Concepts and Pseudo Range Measurement	Differentiating Aerial from Satellite Remote Sensing	Practical 1-4: Performing Risk Assessment

Duration (hour)		Basics of Remote sensing (12)	Basic Concepts of GIS (12)	Satellite positioning system – An overview (12)	Data Acquisition (12)	Risk management (12)
S-4	SLO-1	Wavelength Regions and Wavelength Significance	Differentiating spatial data from non-spatial data	NAVSTAR GPS signals, Geo-positioning including Phase Difference Measurement and Sources of GNSS errors	Understanding Satellites and their Specifications: LANDSAT, SPOT	Practical 1-4: Performing Vulnerability Assessment
S-5	SLO-1	Conceptualization of Interaction of EMR with Atmosphere and Earth's Surface	Insights about spatial data models – Raster and Vector data	Introduction to Datum/Ellipsoid including definition and basic concepts	Satellites and their Specifications : ENVISAT, RADARSAT, IRS, IKONOS	Practical 5-8: Basics of Damage assessment
S-6	SLO-1	Absorption in the context of Interaction of EMR with Atmosphere and Earth's Surface:	In depth understanding of Raster Data & its Representation	Differentiating the Global Datum from the Indian Geodetic Datum	Sensors and their Specifications: MSS, TM, LISS (I,II,III,IV)	Practical 5-8: Performing Damage assessment
S-7	SLO-1	Atmospheric Windows and Energy Balance Equation in the context of Interaction of EMR with Atmosphere and Earth's Surface	Sketching out the advantages & Disadvantages Of Vector And Raster Data	Familiarizing concepts of Coordinate Systems	Sensors and their Specifications: PAN, WiFS, AWiFS, MODIS	Practical 5-8: Basics of Land use planning
S-7	SLO-2	Spectral Response and Spectral Signature in the context of Interaction of EMR with Atmosphere and Earth's Surface	Data structures and file format	Transformation of coordinates	Concepts related to Weather Satellites	Practical 5-8: Understanding regulation for sustainable development
S-8	SLO-1	Resolution, Reflectance And Scattering	Overview of data compression including block code, chain code, run length code, quadtree, MrSID	Basics of Global Navigation Satellite System (GNSS)	Concepts related to Communication Satellites	Practical 9-10: Practices for Disaster Risk Management (Hydrological, Environmental and Health)
S-8	SLO-2	Spectral and Spatial resolution in the context of Interaction of EMR with Atmosphere and Earth's Surface	Vector data representation: Data Structure & File format, Topology	GNSS Remote Sensing- 1	Understanding basics of digitizing	Practical 9-10: Practices for Disaster Risk Management (Hydrological, Environmental and Health)
S-9	SLO-1	Temporal and Radiometric resolutions in the context of Interaction of EMR with Atmosphere and Earth's Surface	Imparting knowledge about Database Management System and its necessity	GNSS Remote Sensing- 2	Theoretical understanding of On screen Digitization, Projections, Geometric	Practical 11-12: Case Studies Discussion
S-9	SLO-2	Reflectance and Scattering in the context of Interaction of EMR with Atmosphere and Earth's Surface	Application and advantage of using Database Management System in Context of GIS	GNSS Remote Sensing- 3	Theoretical understanding of On screen transformations of Raster and Vector Data	Practical 11-12: Case Studies Discussion

Learning Resources	1. Lillesand, Thomas M. and Kiefer, Ralph, W., "Remote Sensing and Image Interpretation", 4th Edition, John Wiley and Sons, New York, 2007 2. George Joseph & C. Jeganathan, Fundamentals of Remote Sensing 3rd edition, Universities Press, India, 2018 3. Roy, P.S., Natural Disaster and their mitigation. Published by Indian Institute of Remote Sensing (IIRS), 2000	4. Bhattacharya, T. (2012). Disaster Science and Management, McGraw Hill Education (India) Pvt. Ltd. ISBN-10: 1259061302; ISBN-13: 978-1259061301 5. Robert R. G. (1991), "Manual of Remote Sensing, Vol. I, American Society of Photogrammetry and Remote Sensing, Falls Church, Virginia, USA 3. 6. Paul Longley, Michael Good child, David Maguire and David Rhind (2005). Geographical Information Systems. Principles, Techniques, Applications and Management. John Wiley & Sons.

Learning Assessment

	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)				University Examination (50% weightage)	
		CLA – 1 (25%)		CLA – 2 (25%)			
		Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
Level 2	Apply Analyze	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 3	Evaluate Create	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Total	100 %		100 %		100%	

Course Designers

Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Dr.Manikanda Bharathi, Business Development Manager, GEMS Tamil Nadu	*1. Dr. S.Sanjeevi Prasad, Associate Professor, sanjeevi.geo.unom@gmail.com*	*1. Dr.K.S.Vignesh, SRMIST*

Course Code	VACSP02	Course Name	COMMUNICATION SKILLS	Course Category	PE	Professional Core	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	To make the students learn the native speaker's accent
CLR-2 :	To educate them about the word stress of communication
CLR-3 :	To enable them to participate in group discussion and debates
CLR-4 :	To improve their participation and participation & presentation skills
CLR-5 :	To improve listening and speaking abilities

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
		1	2	3
CLO-1 :	Understand the native speakers exact pronunciation	1	85	75
CLO-2 :	Master the sound systems of English	2	90	80
CLO-3 :	Have a better word stress, rhythm and intonation	3	85	75
CLO-4 :	Develop neutral accent	2	80	70
CLO-5 :	Participate in any conversation with any native speaker	2	80	70

Program Learning Outcome (PLO)													
1 Fundamental Knowledge	2 Application of Concepts	3 Link with Related Disciplines	4 Procedural Knowledge	5 Skills in Specialization	6 Ability to Utilize Knowledge	7 Skills in Modeling	8 Analyze, Interpret Data	9 Investigative Skills	10 Problem Solving Skills	11 Communication Skills	12 Analytical Skills	14 Professional Behavior	15 Life Long Learning
H	L	L	-	L	-	L	-	L	L	L	-	L	-
M	L	L	L	H	M	L	-	H	M	L	-	M	-
M	M	M	M	H	H	L	-	M	L	L	-	L	M
H	M	M	L	M	-	L	-	L	L	L	-	L	-
M	H	M	M	H	H	L	-	M	L	L	-	L	M

Duration (hour)		Speaking (12)	Writing (12)	Listening (12)	Personality (12)	Non verbal (12)
S-1	SLO-1	Overview of Shannon weaver model	Basics of writing	Effective listening	Building self confidence	Gesture
S-2	SLO-1	To understand Shannon weaver model	Drafting	Barriers in listening	Building self esteem	Body language
S-3	SLO-1	To understand Shannon weaver model	Editing	Barriers in listening	First impression	Body language

Duration (hour)		Speaking (12)	Writing (12)	Listening (12)	Personality (12)	Non verbal (12)
S-4	SLO-1	*Tone*	*Narrating*	*Barriers in listening*	*Etiquettes*	*Facial expression*
S-5	SLO-1	*Volume*	*Revising*	*Barriers in listening*	*Etiquettes*	*Facial expression*
S-6	SLO-1	*Keep it simple*	*Explaining*	*Facilitators in listening*	*Etiquettes*	*Facial expression*

Learning Resources	1. *English Grammar in Use by Raymond murphy* 2. *R.P. Bhatnagar, English for competitive examinations, Trinity press, 3rd edition, 2016*	3. *Contemporary's Foundations writing by Pamela bliss and Virginia lowe*

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember Understand	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
Level 2	Apply Analyze	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Level 3	Evaluate Create	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1. Prof. Daniel David, Professor and Head, Department of English, MCC, Chennai	*1. Archana arul, Associate professor, department of Journalism,SRM Sikkim*	*1. Ms. Geetha, Assistant professor SRMIST*

Course Code	VACSPH01	Course Name	FUDAMENTALS OF MICROSOFT OFFICE	Course Category	PE	Professional Core	L	T	P	C
							1	1	0	2

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	School of Public Health	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:
CLR-1 :	To make the students learn about the basic knowledge of Microsoft applications
CLR-2 :	To improve their skills in applying various Microsoft applications
CLR-3 :	To improve the better understanding of usage of all the Microsoft skills
CLR-4 :	To improve them prepare and motivate for doing research using Microsoft applications
CLR-5 :	To understand recursive techniques in Microsoft

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Learning Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)
		1	2	3
CLO-1 :	Oriented with the basic knowledge of computer applications	1	85	75
CLO-2 :	Applying the knowledge in framing of training programs	2	90	80
CLO-3 :	Gathering the information in relation to inputs and outputs	3	85	75
CLO-4 :	Understanding the storing and processing of huge information in relation to Inputs and outputs	2	80	70
CLO-5 :	Understanding the Storaging and processing of huge information in relation to feedbacks	2	80	70

Program Learning Outcome (PLO)													
1	2	3	4	5	6	7	8	9	10	11	12	14	15
Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	Professional Behavior	Life Long Learning
H	L	L	-	L	-	L	-	L	L	L	-	L	-
M	L	L	L	H	M	L	-	H	M	L	-	M	-
M	M	M	M	H	H	L	-	M	L	L	-	L	M
H	M	M	L	M	-	L	-	L	L	L	-	L	-
M	H	M	M	H	H	L	-	M	L	L	-	L	M

Duration (hour)		Introduction to computer(12)	Microsoft word(12)	Microsoft Excel (12)	Microsoft Powerpointt (12)	Web learning (12)
S-1	SLO-1	Information and communication technology	Word Processing	Introduction to spread sheet program	Overview of Microsoft PowerPoint	Training in regards to composition of emails, message and video conferencing
S-2	SLO-1	Overview on the usage of computer	Overview of Microsoft Word	Overview of Microsoft excel	Creating, saving and opening a PPT file	Orienting web based learning Swayam platform(www.swayam.gov.in)
S-3	SLO-1	Application of computer in public health	Creating, saving and opening a document in Microsoft word	Creating, saving and opening spread sheets	Formatting and editing futures in slideshow, design and inserting slide number	Orienting virtual learning through virtual labs (www.vlabs.co.in)

Duration (hour)		Speaking (12)	Writing (12)	Listening (12)	Personality (12)	Web learning (12)
S-4	SLO-1	*Application of computer in public health*	*Formatting, Editing futures and drawing table*	*Creating formulas in Microsoft excel*	*Practicing pictures, graph and tables*	*Orienting them to go through the research paper in internet by using national digital library (www.ndl.iitkgp.ac.in)*
S-5	SLO-1	*Application software used in PH*	*Page set up, Paragraph alignment, spelling and grammar check in Microsoft word*	*Creating formulas in Microsoft excel*	*Enhancing the methods to improve picture, graph and table representation*	*Orienting them towards online learning platforms like courser and swayam*
S-6	SLO-1	*Application software used in PH*	*Printing option, inserting page number, graph and footnotes in word*	*Formatting and editing futures for charting data*	*Finalizing the PPTs*	*Seminars/assignment/project work/ presentations*

Learning Resources	1. *Sinha, P.K.& Sinha, P.(2004). Computer fundamentals.4th edition, BPB publication* 2. *Irtegov, D. (2004). Operating system fundamentals. Firewall Media.*	3. *Frye, C. & Lambert, J.(2015). Microsoft Office 2016 Step by Step, Microsoft Press* 4. *Milke, M.(2007). Absolute beginner's guide to computer basics. Pearson Education Asia*

Learning Assessment							
	Bloom's Level of Thinking	**Continuous Learning Assessment (50% weightage)**				**University Examination (50% weightage)**	
		CLA – 1 (25%)		**CLA – 2 (25%)**			
		Theory	**Practice**	**Theory**	**Practice**	**Theory**	**Practice**
Level 1	Remember	*20%*	*20%*	*15%*	*15%*	*15%*	*15%*
	Understand						
Level 2	Apply	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
	Analyze						
Level 3	Evaluate	*10%*	*10%*	*15%*	*15%*	*15%*	*15%*
	Create						
	Total	100 %		100 %		100%	

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
1.	*1.*	*1. Ms. Geetha, Assistant professor SRMIST*