

Course Code	HM18302	Course Name	EPIDEMIOLOGY AND BIO -STATISTICS	Course Category		Elective course	L	T	P	C
							2	0	2	3

Pre-requisite Courses	NA	Co-requisite Courses	NA	Progressive Courses	NA
Course Offering Department	MBA (Hospital Management)	Data Book / Codes/Standards			

Course Learning Rationale (CLR):	<i>The purpose of learning this course is to:</i>	Learning	Program Learning Outcomes (PLO)
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CLR-1:	To understand various concepts in Epidemiology of disease and Community health	1	2	3	1	2	3	4	5	6	7	8	9	10	11	12
CLR-2:	To learn the application of public health concept to improve the well being	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Effective communication skills	Initiate critical thinking	Resources analysis for organizations	Familiarize organizations and its stakeholders	Integrate functional knowledge with strategic skills	Comprehend effectively in globalized environment	Practice business ethics with integrity	Enhance careers and commitment	Instigate entrepreneurial drive	Application of multidisciplinary knowledge comprising of finance, operations, system, marketing and human resources management to integrate business projects	Usage of business metrics to evaluate business projects to develop growth strategies	Authorize the students to innovate and execute the business idea during the challenging business situation
CLR-3:	To demonstrate an understanding of the essential principles of modern bio-statistical methods															
CLR-4:	To practice the usage of statistical tools required to measure a health status															
CLR-5:	To assess the role of demography in epidemiology of disease and community health															
CLR-6:	To analyze the role of National Health Programs and International Health Programs															
Course Learning Outcomes (CLO):	<i>At the end of this course, learners will be able to:</i>															
CLO-1:	Understand the fundamentals of Epidemiology of disease and community health	2	60	50	H	M	H	M	L	M	M	M	L	M	H	L
CLO-2:	Application of public health concept to improve the wellbeing	2	80	70	L	H	L	L	M	M	M	L	L	M	H	H
CLO-3:	Decide on the Choice of the modern bio-statistical tools	1	80	75	M	H	L	L	M	M	L	L	L	M	H	M
CLO-4:	To use a statistical tools to measure health status	2	80	70	M	H	M	L	M	M	L	L	L	M	H	H
CLO-5:	Analyze the role of demography in epidemiology of disease and community health	3	90	80	M	H	H	L	M	M	L	L	L	M	H	L
Overall	To analyze the impact of Health programs in National and International level.	3	90	80	H	L	H	M	H	M	H	M	L	H	M	H

Duration (hour)	6	6	6	6	6	
S-1	SLO-1	Concept of health and disease;	Epidemiology Study	Fundamentals of Biostatistics	Hypothesis testing	Demographic cycle
	SLO-2	Epidemiological Triad	Epidemiology study Designs	Applications of Biostatistics	Null hypotheses	Population growth
S-2	SLO-1	Disease Control strategies	Observational Studies	Definitions in Biostatistics	alternate hypotheses	Population structure
	SLO-2	Disease prevention strategies	Descriptive Studies	Types of Data	Type I error	Age pyramid
S-3	SLO-1	Communicable diseases	Analytical Study Design	Tabulation of Data	Type II error	Sex ratio
	SLO-2	Epidemiology of communicable diseases	Analytical study	Presentation of Data	p value	Population density

S-4	SLO-1	Chain of disease transmission	Ecological Study	Frequency distribution	Steps in hypothesis testing	Family size
	SLO-2	Non-Communicable diseases	Experimental Study	Graphical Methods	Inference of hypothesis testing	Mortality and Morbidity
S-5	SLO-1	Epidemiology of Non-communicable diseases	Measures of Occurrence	Measures of Central Tendency	t-tests	Literacy and Life expectancy
	SLO-2	Standard methods of study	Incidence and Prevalence	Dispersion	<i>Chi-Square tests</i>	Population policy and National Demographic Goals
S-6	SLO-1	Epidemiology of disease	Measures of Association	Normal distribution	Correlation	National Health Programs
	SLO-2	Community health	Risk and Odds ratios	Interpretation of data	Regression	International Health Programs
S7	SLO-1	Case study-1	Case study-1	Case study-1	Case study-1	Case study-1
S7	SLO-2					
S8	SLO-1	Case study-2	Case study-2	Case study-2	Case study-2	Case study-2
S8	SLO-2					
S9	SLO-1	Case study-3	Case study-3	Case study-3	Case study-3	Case study-3
S9	SLO-2					

Learning Resources	1. Leon Gordis, Epidemiology, Elsevier Saunders, 5th Edition, 2017.	3. B. Burt Gertman, Basic biostatistics: Statistics for public health practice, Jones and Bartlett publishers, 2008. 4. High Yield Biostatistics, Epidemiology and Public Health, - Anthony N Glaser, 4th Edition.-Lippincott Williams and Wilkins, 2013 5. R Bonita, R Beaglehole and T Kjellström, Basic Epidemiology, 2 nd Edition, WHO Publication, 2006
	2. K. Park, Park's Textbook of Preventive and Social Medicine 24 th Edition, Banarsidas Bhanot Publishers, 2017.	

		Learning Assessment											
	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)										Final Examination (50% weightage)	
		CLA -1 (5marks)		CLA -2 (5marks)		CLA-3 (10marks)		CLA -4 (15marks)		CLA -5(15marks)		Marks -100 which will be weighted at 50%	
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	20	10	25	5	20	10	20	10	25	5	30	0
Level 2	Apply Analyze	30	10	35	5	30	10	30	10	35	5	40	0
Level 3	Evaluate Create	20	10	25	5	20	10	20	10	25	5	30	0
Total		100 %		100 %		100 %		100 %		100%		100 %	

CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers		
Experts from Industry: Dr.Ashok Thiakarajan	Experts from Higher Technical Institutions	Internal Experts
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