**Principles of Epidemiology**

**Course Description:-**

In this introductory course, students will learn and apply basic concepts of epidemiology to multiple domains of public health. We will illustrate and practice using epidemiology to better understand, characterize, and promote health at a population level. The class will engage the students in active and collaborative learning through team activities, individual projects, case studies, group discussion, and individual projects.

**Pre-requisite**:- Nil

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| Learning outcomes:  At the end of the course, students should be able to:     1. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues. 2. Describe a public health problem in terms of person, place, and time. 3. Apply the basic terminology and definitions of epidemiology. 4. Calculate basic epidemiology measures. 5. Identify key sources of data for epidemiologic purposes. 6. Evaluate the strengths and limitations of epidemiologic reports. 7. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data. 8. Draw appropriate inferences from epidemiologic data. 9. Identify the principles and limitations of public health screening programs.   10. Communicate epidemiologic information to lay and professional audiences.  11. Apply concepts, methods, and tools of public health data collection, analysis and  interpretation, and the evidence-based reasoning and informatics approaches that are essential to public health practice. |

**COURSE PLAN**

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| **Week No.** | **Topics/Activities** |
| 1 | Concepts and Methodological Approaches in Epidemiology |
| 2 | Rates, Risks, Measures of Association and Impact |
| 3 | Use of Disease Registers |
| 4 | Statistical Methods in Epidemiology |
| 5 | Applications of Epidemiology |
| 6 | Research Areas in Epidemiology |
| 7 | Infectious Disease Epidemiology |
| 8 | Health Services Research |
| 9 | Epidemiology in Developing Countries |
| 10 | Ethical Aspects of Epidemiological Research |

**REFERENCES**

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| Agrens, W. & Pigeot, I. (Eds.) | Handbook of Epidemiology | 2005 | Springer |