# Veterinary Epidemiology

 First Course Syllabus for forth class

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| **Topic** | **subject** |
| **1**    | **Introduction** * Definitions.
* Objectives of epidemiology and preventive medicine.
* Uses of epidemiology. Types of epidemiology
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| **2**   | **Occurrence of disease**  * Basic concepts of disease quantification
* Measures of morbidity, Prevalence, Incidence.
* Relationship between prevalence and incidence.
* Measures of mortality.
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| **3**   | **Diseases Transmission and Determinants**  * Mode of disease transmission. Susceptibility.
* Clinical vs. subclinical diseases.
* Endemic, epidemic, pandemic, and outbreaks.
* Diseases determinants
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| **4**   | **The economics of animal diseases**   |
| **5**   | **Data collection and management**   |
| **6**   | **Sampling and sample size** • Sampling methods.• Sample size importance and calculation |
| **7**   | **Study Design**  * Prospective vs. Retrospective
* Observational studies: Descriptive. Cross-sectional. Case-control. Cohort.
* Experimental studies • Field trials.
* Randomized controlled trials (clinical trials).
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| **8**   | **Measures of association**  * Absolute risk. Relative risk. Relative odds (odds ratio).
* Attributable risk. Hazard ratio. Association vs. causation
* Bias, confounding, and interaction.
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| **9**   | **Survey and Surveillance**   |
| **10**   | **Control and Eradication of Diseases**  |
| **11**    | **Assessing validity and reliability of diagnostic tests**  , **(serological epidemiology)**   |