

## Course topics

- Probability space, event, probability, conditional probability, independence
- Discrete random variable, probability mass function, common discrete distributions
- Continuous random variable, distribution function, density function
- Expected value, standard deviation
- Common continuous distributions
- Multidimensional random variables
- Basics of statistics, descriptive statistics
- Parameter estimation, confidence interval for the mean of the normal distribution both with known and unknown standard deviation
- Hypothesis testing, Z and T tests, nonparametric tests, goodness of fit tests, homogeneity tests, independence tests
- Linear regression
- Usage of statistical softwares