

CONTEST TOPICS

Position 19, Associate Professor

1. Introduction to Statistics. Basic notions.
2. Descriptive statistics. Statistical variables. Distribution series and frequency types. Statistical parameters
3. Elements of probability theory. Introductory notions. Operations on events. Conditional probabilities. Bayes' law. Use of probabilities in the screening tests
4. Random variables. Probability distributions. Probability law. Expected value and variance of a random variable. Cumulative distribution function. Probability density function. Discrete probability distributions: Binomial distribution, Poisson distribution, Normal distribution
5. Estimation of statistical parameters. Central limit theorem. Point estimation. Estimation by confidence intervals
6. Hypothesis testing
7. Statistical tests
8. Analysis of the relationship between variables. Regression. Analysis of the relationship between qualitative variables.

Bibliography

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3. Rosner, B., Fundamentals of Biostatistics, Seventh Edition, Harvard University, 2010
5. Ewens, W. & Grant, G., Statistical Methods in Bioinformatics: An Introduction, Second Edition, Springer, 2005
6. Pagano, M. & Gauvreau, K., Principles of Biostatistics, Second Edition, California, 2000

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