"GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI
Faculty of Industrial Design and Business Management
Department of Engineering and Management

Competition for the position of **Associate Professor,** position **no. 11** - list of Positions for Academic Staff

Position disciplines: Statistical techniques for business management
Probability theory and mathematical statistics
Databases in management

TOPICS OF COMPETITION
for the position of **Associate Professor,** position **no. 11**

1. Primary processing of statistical data: observing (recording) data, methods for structuring statistical populations, methods of data presentation, measures of central tendency, and statistical analysis of variability.

2. Statistical survey and hypothesis testing for economic decision-making: types of surveys, representativeness errors, indicator calculation, and statistical hypothesis testing to support decisions based on survey data.

3. Characterizing dependencies among economic variables: analysis of interdependent statistical series, testing the significance of correlation coefficients, and statistical regression.

4. Analysis of variance (ANOVA): unifactorial and bifactorial economic applications.

5. Measuring and analysing the dynamics of economic indicators: the concept of a time series, a system of indicators for time series, and statistical analysis of time series components.

6. Probability theory: concepts of experiment and random event, probability and random variable, numerical characteristics of a random variable, probabilistic schemes, discrete and continuous probability distributions, normal distribution.

7. Statistical inference: concepts of population and sample, point estimation and confidence intervals for population parameters, and statistical tests for population parameters.

8. Statistical methods for factorial analysis of multivariate data series: Principal Component Analysis method.

9. Databases in Management: techniques for database design and normalization, strategies for integrating databases into specific operational management problems.

10. Database Management Systems (MS Access): components, design, creation, usage, and integration with other software applications.

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2. David Forsyth, *Probability and Statistics for Computer Science*, Springer International Publishing AG, ISBN 978-3-319-64409-7, 2018.
3. Biji M., Biji E, Lilea E, Anghelache C, *Tratat de Statistică*, Ed. Ec.,ISBN 973-590-526-4, 2002.
4. Jaba Elisabeta, *Statistica*, ed. III, Ed. Economica, 2002
5. Rusu, G., *Elemente de Teoria Probabilitaților și Statistică Matematică*, Sedcom Libris, 2002.
6. Brudaru, O.,Vilcu, A., *MS ACCESS - Utilizare si Aplicatii in Ingineria Economică*, Casa de Editura Venus, Iasi, ISBN 973-8174-83-X, 2002.
7. Curwin,J., Slater, *Quantitative Metods for Bussines Decisions*, Capman & Hall, 2001.
8. A.I.Maniu, C. Mitruț, V.Voineagu, *Statistică pentru Managementul Afacerilor*, Ed. Ec.,1995.

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