THE LIST OF TOPICS FOR ``MULTIVARIATE STATISTICS'' COURSE

1. Aspects of multivariate analysis: a problem of selection of coordinate system.
2. Matrix algebra and Random vectors.
3. Multivariate Normal Distribution as a model.
4. Dirichlet Distribution as a model.
5. Descriptive Statistics: Sample mean, covariance and correlation as matrix operations.
6. Statistical distance in m-dimensional Euclidean space.
7. Sample Geometry and Random Sampling.
8. Inferences about mean vector.
9. Comparison of several Multivariate means.
10. The generalization of Student's ratio. Hoteling distribution.
11. Hotelling's T^2 and Likelihood Ratio Tests.
12. Multivariate problem of Behrens-Fisher.
13. Multivariate Analysis of Variance (MANOVA).
14. Multivariate linear regression models.
15. Multivariate multiple regression.
16. Principal components.
17. Calculation of MLEs for principal components.
18. Large Sample inferences.
19. The weighted least squares method.
20. Clustering and Distance methods.