73. Statistical Analysis I (3)

Prerequisite: Math 51 or 71 or DS 71; Econ 1A-B recommended. Introduction to descriptive statistical tools as applied to management decision making. Central tendency and dispersion measures; index numbers (CPI, deflators); time series analysis (trends, seasonal variations); probability theory; probability and sampling distributions (normal, exponential, binomial, poisson); central limit theorem. (Former QM 65)

141. Quantitative Analysis in Health Care Systems (3)

Prerequisite: DS 73. Survey of quantitative decision-making techniques and models and their applications in health care organizations. (Former QM 104)

173. Statistical Analysis II (3)

Prerequisite: DS 73, IS 50. Statistical inference as applied to managerial problems and decision making. Emphasizes the inferential process; interval estimation, hypothesis testing, one and two-way analysis of variance, regression, and correlation and related inferential analysis, non-parametric methods, Bayesian decision theory. (2 lecture; 2 lab hours) (Former QM 103)

175. Sampling Methods and Applications (3)

Prerequisite: DS 173. Sample designs, estimation using samples, including simple random, stratified, cluster, systematic, area, and multi-stage samples. Replicated sampling, acceptance sampling, industrial uses of sampling, and non-probability designs. (Former QM 175)

176. Bayesian Inference and Decision Theory (3)

274

Prerequisite: DS 173. Revision of probability and subjective interpretation. Bayes' theorem, statistical estimation of various parameters and decision theory, prior analysis and prior probability distributions; posterior analysis and posterior probability distributions; utility problems, expected value of perfect information. (Former QM 178)

178. Regression and Correlation Models (3)

Prerequisite: DS 173. Bivariate, joint, and conditional probability distributions. Linear and non-linear regression models involving multiple relationships. Covariance analysis, significance tests, autocorrelation, serial and partial correlation, and time series analysis. (Former QM 174)

179. Design of Scientific Experiments (3)

Prerequisite: DS 173. Notion of sampling distributions, theoretical probability distributions, gamma and F-distribution; analysis of variance, one-way and two-way classification tests; mixed and random effect models. Latin and Graeco Latin squares; factorial experimentation. (Former QM 176)

181. Principles of Operations Research I (3)

Prerequisite: DS 173. Introduction to operations research and the systems approach: mathematical programming, network analysis, queuing theory, Markov chains, input-output analysis, simulation. (Former QM 161-A)

182. Principles of Operations Research II (3)

Prerequisite: DS 181. Managerial applications of operations research: deterministic and Stochastic models; case studies. (Former QM 161-B)

189T. Topics in Decision Sciences (1-3; max total 6 if no topic repeated)

Prerequisite: 12 units in decision sciences. Theory or application of statistics or operations research applied to current developments. (Former QM 189T)

INFORMATION SYSTEMS (IS)

* 1. Typewriting I (2)

Not recommended for students with one or more semesters of high school typewriting. Development of keyboarding techniques and their applications for personal and business usage. (4 lab hours) (Former O Ad 1)

---

* Not more than six units of credit in typewriting will be allowed toward any degree.