

64. Automation and Computer Language—COBOL (3)

Prerequisite: Q M 60. Programming in COBOL, cards, disk, and tape 1/0.

65. Statistical Analysis I (3)

Prerequisite: Math 51 or 71 or Q M 21A; Econ 1A-B recommended. Introduces statistical theory and its application to management decision making problems. Role, limitations of statistics, descriptive data analysis. Probability theory including Bayes theorem, discrete and continuous distributions, sampling theory and estimation. Time series analysis and index numbers.

103. Statistical Analysis II (3)

Prerequisite: Q M 65. Introduces statistical inference to managerial problems of decision making. Emphasizes the inferential process and model building. Interval estimation, hypotheses testing, ANOVA, regression, non-parametric methods, Bayesian decision theory.

104. Quantitative Analysis in Health Care Systems (3)

Prerequisite: Q M 65. Survey of quantitative decision-making techniques and models and their applications in health care organizations.

105. Information in Health Care Organizations (3) (Former Q M 189T section)

Prerequisite: Acct 4A, Q M 60. Design, implementation and evaluation of comprehensive information systems for planning and controlling the operations of health care organizations.

161A-B. Principles of Operations Research (3-3)

(A) Prerequisite: QM 103. Introduction to OR—systems approach; mathematical models and managerial decisions. Linear programming, Markov Process. (B) Prerequisite: QM 103, 161A. Stochastic models, queueing theory, simulation, Monte Carlo, PERT/CPM.

162. Advanced Computer Programming (3)

Prerequisite: Q M 63, 64. Algorithmic and procedure-oriented languages; arrays, graphs, sorting, merging, symbol tables, searching, list processing, simulation techniques, discs and tape program segmentation and linkage.

164. Interactive Decision Making (3; max total 6)

Limited to seniors with business and quantitative background. Participation in interactive, dynamic business games. Applications of techniques of finance, accounting, personnel management, and quantitative areas to business problems. (3-day field trip required)

166. Applied Computer Systems (3)

Prerequisite: Acct 4A-B, 128 or 132, Q M 64 (Q M 63 and 161A-B desirable). Development and programming of management information systems; accounting subsystems for external reporting and for internal control; techniques and methods used in systems analysis.

168. Data Processing Management (3)

Prerequisite: Acct 4A-B, 128 or 132, Q M 63 or 64 (Mgt 124 desirable). Theories, cost and problems of operation of a computer center; standards; flow of work, scheduling, batching, spooling, multiprogramming, and multiprocessing techniques as methods of control and operation.

169. Machine Language Programming (3)

Prerequisite: Q M 63 or 64. Machine assembly and symbolic languages; report generators; development of macro instructions. Requires development of programs in several languages.

173. Computer Configurations (3)

Prerequisite: Q M 63 or 64, and a basic electronics course (I A 151) or permission of instructor. In-depth study of selection and installation of hardware and software of various computers; feasibility studies, comparisons of self-managed versus service bureau operations; comparison of competitive systems; costs of reprogramming.

174. Regression and Correlation Models Time Series (3)

Prerequisite: Q M 103. Bivariate, joint and conditional probability distributions, regression analysis, linear and nonlinear regression and multiple relationships, covariance and significance tests; autocorrelation, serial and partial correlation; time series analysis.