DESIGN MANAGEMENT (DGGB)

DGGB 0001. MATH METH FOR BUS (PEKING U). (4.5 Credits)

DGGB 0002. STATISTICS (PEKING UNIV). (4.5 Credits)

DGGB 781A. STATISTICAL THEORY I. (3 Credits)
This course provides an introduction to mathematical Statistics and a foundation for acquiring the skills to apply advanced statistical models to many important areas of decision-making in business. The course focuses on developing an understanding of random variables, their distribution functions, and sampling theory. Prerequisite: DGGB 6820.
Prerequisites: DGGB 6820 or GBA Waiver Statistics with a score of 070.

DGGB 781B. DESIGN OF STAT STUDIES. (3 Credits)
Design of Statistical Studies introduces and explores the different types of analyses that can be used to understand, collect, and interpret data that provide a basis for making decisions about businesses, customers, conditions, products, services, and processes. Letting the purpose of the study determine whether enumerative or analytic techniques are appropriate, we explore the various methods within each category to select the most appropriate ones to meet the aims of our study. Students will design studies that provide a basis for decisions about customers, products, and processes. Prerequisite: DGGB 6820.
Prerequisites: DGGB 6820 or GBA Waiver Statistics with a score of 070.

DGGB 781C. SAMPLING THEORY. (3 Credits)
This course is about the use of samples in research and statistical studies. Many courses teach how to analyze data. But, before you analyze it, you have to get it. Where do you get the data? Sampling is widely used for gathering information about various populations, be they people, animals, products, services or natural phenomenon, for industry, government, education, or service. The need to understand what is going on in the world today and predict what might happen in the future requires information and data on what exists today. Social and economic policies, health care planning, and corporate strategies all depend on statistical information. Scientific experiments, such as in medicine, must be constructed so as to provide valid information on which to base decisions about future availability of drugs, products, and services. This course provides a foundation in sample design and data collection for decision making. We study theoretical principles and applications, starting with definition of the population characteristic of concern, the frame, sampling methods, sample size, and sampling plan. We study also sampling and non-sampling errors and biases, problems of non-response, the half-open interval, and other methods to assure validity and usefulness of our data. Assignments will involve constructive criticism of studies in the press and company reports today. An end-term assignment will require writing a sample design for a study of your own. Prerequisite: DGGB 6820.
Prerequisite: DGGB 6820.

DGGB 6800. PRE-MBA BASIC STATISTICS. (0 Credits)
DGGB 6810. MATH METHODS FOR BUS. (3 Credits)
(MBA program prerequisite) Studies the fundamental methods of mathematics applied in business statistics and operations research. The course concentrates on linear algebra and differential and integral calculus.

DGGB 6820. STATISTICS. (3 Credits)
PMBA CORE COURSE Introduces the basic statistical concepts essential for business research and decision-making. These include descriptive statistics, probability distributions, statistical inference and simple and multiple regression.

Mutually Exclusive: MMGB 6820.

DGGB 6830. STATISTICS & DECISIONS. (3 Credits)
Introduces the statistical concepts essential for business decision making. Topics include: Random Variables, normal distribution, sampling distributions; confidence intervals; one and two sample hypothesis tests; simple linear regression; multiple regression; categorical data analysis; ethics in statistics. These concepts will be implemented using state of the art statistical software.

DGGB 7811. SYSTEM DESIGN INTERNSHIP. (1-3 Credits)

DGGB 7820. STATISTICAL REASONING. (3 Credits)
Explores modern statistical concepts that are essential to describe, analyze and regulate complex business processes, providing the basis for most business decision-making. Discusses the essentials of statistical reasoning and statistical support systems. Prerequisite: DGGB 6820.
Prerequisites: DGGB 6820 or GBA Waiver Statistics with a score of 070.

DGGB 7840. EXPLANATORY MODELS. (3 Credits)
Focuses on preliminary data analysis, model formulation and estimation, and reliability and sensitivity analysis to understand causal links between various elements of a relationship as the prerequisite for effective system design and control. Multivariate regression models and techniques of experimental design provide the basis for exploring these links. Discusses applications to all areas of business. Prerequisite: DGGB 6820.
Prerequisites: DGGB 6820 or GBA Waiver Statistics with a score of 070.

DGGB 7842. STATISTICAL THEORY II. (3 Credits)
This course provides an introduction to mathematical Statistics and a foundation for acquiring the skills to apply advanced statistical models to many important areas of decision-making in business. The course focuses on developing an understanding of: Hypothesis testing, Nonparametric Statistics, Bayesian Statistics, Multivariate Methods and Linear Models and their applications. Prerequisite: DGGB 781A.
Prerequisite: DGGB 781A.

DGGB 7844. STAT METHODS AND COMP I. (3 Credits)
This course is designed to introduce statisticians to statistical programming and data analysis. Topics will include: hypothesis testing, regression models, experimental design and simulation. The statistical topics are integrated into the programming content.

DGGB 7850. FORECASTING MODELS. (3 Credits)
Introduces and discusses forecasting systems capable of interconnecting separate areas of business. Efficient forecasting systems, based on modern analytical and simulation techniques, can provide necessary insights into the behavior of strategic variables over time. Prerequisite: DGGB 6820.
Prerequisites: DGGB 6820 or GBA Waiver Statistics with a score of 070.

DGGB 7899. SPEC TOPICS SYS DESIGN. (3 Credits)
Offered from time to time, this course permits faculty and students to explore a systems design topic of particular interest. The specific topic and prerequisites are announced at the time the course is offered.

DGGB 8890. SEMINAR IN SYS DESIGN. (3 Credits)
Offered from time to time, this seminar is designed to give advanced students opportunities to conduct integrative research and discussion on selected issues in systems design. Under faculty supervision, in-depth studies are conducted by students either individually or in groups.
DGGB 8999. INDEPENDENT STUDY. (3 Credits)