

# DESIGN MANAGEMENT (DGGB)

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## 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.

**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.

## 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)

MBA 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.

**Attribute:** BUAN.

**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 to 3 Credits)

## 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.

**Attribute:** BUAN.

## 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.

**Attribute:** ASDM.

**Prerequisites:** DGGB 6820 or GBA Waiver Statistics with a score of 070.

## DGGB 8999. INDEPENDENT STUDY. (3 Credits)