

# COLLEGE OF BUSINESS ADMINISTRATION

## SAN DIEGO STATE UNIVERSITY

### Program Prerequisite Competencies

The faculty of our college will expect you to have the following competencies at the start of your MBA program.

#### ***Personal Computer Competencies***

- Use a spreadsheet such as Excel for data analysis, including creating data files, importing and exporting data files, and creating and running spreadsheet macros. You should also be able to download data from a database into a spreadsheet.
- Prepare an academic paper using a word processor such as Word. Also, create a document suitable for class projects using presentation software such as PowerPoint.
- Navigate the Internet using a browser. Send and receive email.
- Access and download/upload files on Blackboard and/or other coursework software, as used by various instructors.

#### • ***Economic Competencies***

- Construct a simple supply/demand model (1) to demonstrate the concept of market equilibrium and (2) to predict the impact of changes in the determinants of supply and demand on market prices and output levels.
- Apply marginal analysis to determine a firm's profit-maximization and cost minimization output levels. Explain the relationships between total, average, and marginal variables.
- Describe the characteristics that define the market structures of perfect competition, monopolistic competition, oligopoly, and monopoly.
- Describe some of the most common ways unemployment, national income, interest rates, and inflation are measured. List some of the limitations of each of these measures. List some of the economic problems associated with high unemployment, high interest rates, high rates of inflation, and high rates of monetary growth.
- Construct a simple aggregate supply/aggregate demand model (1) to demonstrate the determination of real national product and the price level and (2) to demonstrate the impact of aggregate supply and aggregate demand shocks on an economy.
- Describe the rationale for fiscal and monetary policy. Describe the objectives of fiscal and monetary policy. Describe the tools used to implement fiscal and monetary policy.

#### ***Quantitative/Statistical Methods Competencies***

- Develop, understand, and use linear and logarithmic scales. Convert to and from log scales.
- Recognize the differences between linear and nonlinear models. Conceptualize the slope and intercept for a straight line. Solve a quadratic equation. Graph an equation that results in a parabola.
- Find the determinant and the inverse of a 2-by-2 matrix, and use the procedures for finding such values for matrices of higher orders.
- Solve for systems of simultaneous equations that have two equations with two unknowns and that have three equations with three unknowns.

- Explain the differences between discrete and continuous data, as well as the differences among nominal, ordinal, interval, and ratio level data.
- Identify, differentiate, and calculate at least three different measures of central tendency (mode, median, and mean). Differentiate among an unweighted mean, a weighted mean, and a trimmed mean, and know that there are other measures of central tendency as well. Calculate, understand, and use various measures of location (such as percentiles, quartiles, deciles, etc.) and know which one is appropriate for various situations.
- Identify, differentiate, and calculate at least three different measures of variability and be able to know which one is appropriate for various situations.
- Use summation notation to solve algebraic problems, especially in regard to measures of variability and measures of relationships between variables.
- Determine the differences between combinations and permutations, know the basic and exponential counting rules of probability, and be able to apply rules related to unions, joint, conditional, and/or marginal probabilities to determine the probability that an event will occur.
- Determine whether a distribution is normal through a variety of analytical approaches, both graphical and computational. Be familiar with the characteristics of a normal distribution. Understand the meaning of skewness and kurtosis and be able to determine the skewness and kurtosis of a distribution.
- Use a normal distribution table to determine the probabilities for various areas under a normal curve.
- Know whether the normal, binomial, Poisson, or hypergeometric distribution is the appropriate distribution for determining the probabilities of various events.
- Understand the differences between random and non-random sampling. Know how to generate random numbers. Be able to differentiate among stratified random sampling, cluster sampling, and other procedures for obtaining representative samples.
- Be familiar with the use of the various functions of a business calculator and be able to input and store equations into such calculators.

### ***Mastering the Prerequisite Competencies***

If you are not familiar with the listed skills, you can obtain the prerequisite competencies by taking a course in algebra, economics, statistics and/or personal computers. This is the recommended approach if you have never taken an economics and/or statistics course. You can also study these concepts on your own using an online review course or standard textbooks.

South Western College Publishing ([www.mbaprimer.com](http://www.mbaprimer.com)) and the Graduate Management Admission Council (<http://www.mba.com/mba/store>) offer distance learning preparation courses. These are self-guided, self-paced interactive courses designed to prepare you for the curriculum in your MBA program. Program prerequisite material on algebra and other quantitative methods may be reviewed by completing the "Business Statistics Module" in Pre Primer by South Western or the "Quantitative Skills Interactive" and "Statistics Interactive" CD-ROMs offered by the Graduate Management Admission Council. You may also complete related modules on managerial economics, accounting, and finance if you wish to get a head start in your MBA program.

We offer the following lists of textbooks merely as a guide to books often found in libraries and college bookstores.

#### **TEXTS – Economics**

- Mankiw, N. Gregory. *Essentials of Economics*, South Western.
- Case, Karl E. and Ray C. Fair. *Principles of Economics*, Prentice Hall.
- Shiller, Bradley R. *The Economy Today*, McGraw Hill.
- Stiglitz, Joseph. *Economics*, W.W. Norton & Company, Inc.

#### **TEXTS – Statistics**

- McClave, James T., P. George Benson, Terry Sincich. *Statistics for Business and Economics*, Prentice Hall.