AL YAMAMAH UNIVERSITY

Introduction to Statistics (BUS 495)

EMBA

Course Syllabus

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specification

Revised April 2007

Course Specification

Institution: Al Yamamah University
College/Department: Executive Master of Business Administration (EMBA)

A Course Identification and General Information

1. Course title and code: Introduction to Statistics (BUS 495)
2. Credit hours: 2
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Foundation Semester of EMBA
4. Name of faculty member responsible for the course
5. Level/year at which this course is offered: Foundation Semester
6. Pre-requisites for this course (if any)
7. Co-requisites for this course (if any)
8. Location if not on main campus

B Objectives

1. Summary of the main learning outcomes for students enrolled in the course. This course is concerned with providing students with an understanding of and ability to apply (1) exploratory data analysis, (2) basic inferential procedures, (3) regression analysis, (4) statistical process control, and (5) experimental design. The methods to be covered have been selected for their relevance to managerial decision making and problem-solving. The course also will provide a foundation for students to continue to explore the management statistics in other courses.
2. Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in

content as a result of new research in the field)

- Update the content periodically.
- Using new references.
- Using web references.

C. Course Description (Note: General description in the form to be used for the Bulletin or Handbook should be attached)

Day	Topics	Detailed Content
1	Describing Data Probability	Graphical Methods Numerical Methods Grouped Data Histograms Calculate the mean, variance and standard deviation
2	Random Variables Regression	Discrete Random Variables Continuous Random Variables Mean and Variance of Random Variables Binomial Distribution Normal Distribution Continuous Probability Distributions Empirical Rule Chebyshev's Rule Simple Linear Regression Multiple Linear Regression Regression Statistics Model Suitability Least squares, errors, regression assumption

3	Decision Making Trends	Under certain and uncertain conditions Decision tree and/or payoff table Calculate EVPI Calculate and evaluate forecast error Exponential smoothing Time Series Cyclical Variation Seasonal Variation
4	Sampling Distributions Confidence Intervals	Central Limit Theorem Transformations Probabilities Using Normal Distribution Proportions One sample t-confidence intervals One sample z-confidence intervals Two sample t-confidence intervals
5	Hypothesis Testing Quality	Large and Small samples t-distribution One-tailed hypothesis tests p-values hypothesis tests hypothesis tests for 2 populations type I and type II errors Control charts x-bar charts R-chart

2. Course components (total contact hours per semester):

Lecture: 30 hours	Tutorial: None	Practical/Fieldwork /Internship: None	Other:

3. Additional private study/learning hours expected for students per week. (This should be an average :for the semester not a specific requirement in each week)

Students are expected to prepare for the course at least two weeks before the course (three hours a day), in order to participate in the class. Also they have to work during the days of classes, and after finishing the classes. This will make about 21 hours a week (84 hours per month) excluding time devoted for studying for the final exams

4. Development of Learning Outcomes in Domains of Learning

For each of the domains of learning shown below indicate:

- A brief summary of the knowledge or skill the course is intended to develop;
- A description of the teaching strategies to be used in the course to develop that knowledge or skill;
- The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

a. Knowledge

(i) Description of the knowledge to be acquired

- To understand the key concepts of probability and statistics that has wide applicability in business and economics.
- To be able to state, interpret, and apply the central limit theorem, measures of central tendency and dispersion, basic probability concepts, random variables, confidence intervals and hypothesis tests.
- To use software to develop a regression model for data sets
- To improve students' statistical thinking abilities

(ii) Teaching strategies to be used to develop that knowledge

Learning activities may include lectures, case studies, research projects and team efforts. Students are expected to read the textbooks or other assigned reading outside of and before each class, and to participate in the critical evaluation of the material

through small-group and class discussion.

(iii) Methods of assessment of knowledge acquired

Evaluation is based on a written exam.

b. Cognitive Skills

(i) Cognitive skills to be developed

1. Interpreting
2. Analyzing
3. Classifying
4. Summarizing
5. Comparing and contrasting
6. Storing, manipulating, and retrieving information
7. Evaluating the reading materials

(ii) Teaching strategies to be used to develop these cognitive skills

1. Making connections between different concepts across the domains.
2. Using charts and concept maps.
3. Assigning research questions that can be answered through collecting and analyzing data.
4. Synthesizing the information that students collect.
5. Summarizing the findings of the online research.
6. Class discussions
7. Using the Internet to create learning activities.
8. Using the instructor's webpage learning activities.

(iii) Methods of assessment of students cognitive skills

1. Discussing and evaluating the topics that students learn from their textbooks and other sources.
2. Quizzes and Exams.

c. Interpersonal Skills and Responsibility

(i) Description of the interpersonal skills and capacity to carry responsibility to be developed

1. Developing oral presentations
2. Communicating personal ideas and thoughts.
3. Responding to class discussions.
4. Developing teamwork skills.
5. Collaboration to finish team assignments.
6. Presenting reports on their reading.
7. Writing a short reflective paper that relates key concepts of the discipline to students' personal experience.

(ii) Teaching strategies to be used to develop these skills and abilities

1. Debates
2. Workshops
3. Using technology application tools including Microsoft office for writing and publishing.

(iii) Methods of assessment of students interpersonal skills and capacity to carry responsibility

1. Peers' feedback
2. Instructor's feedback

d. Communication, Information Technology and Numerical Skills

(i) Description of the skills to be developed in this domain.

1. The essential components of communication skills are based on developing critical skills, observation, and feedback.
2. Encouraging students to use online resources.
3. Using the Internet to collect statistical data.
4. Using Microsoft Office (e.g. Excel, Microsoft Access, front page) to analyze data and prepare statistical reports.

(ii) Teaching strategies to be used to develop these skills

1. Group discussion
2. Small-group observation.
3. Online workshops

(iii) Methods of assessment of students numerical and communication skills

1. Providing opportunities for observed practice.

2. Providing feedback. 3. Encouraging self-assessment during the learning process.
e. Psychomotor Skills (if applicable)
(i) Description of the psychomotor skills to be developed and the level of performance required
(ii) Teaching strategies to be used to develop these skills
(iii) Methods of assessment of students psychomotor skills

5. Schedule of Assessment Tasks for Students During the Semester			
Assessment	Assessment task (e.g. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	Class activates (in class quizzes, and homework)	daily	20%
2	Class Discussions	daily	15%
3	Major exam	3rd day	15%
4	Project	2nd week	20%
5	Final exam	3rd week	30%

D. Student Support

1. Arrangements for availability of faculty for individual student consultations and academic advice. (include amount of time faculty are available each week) The faculty member has 2 hours per week for these cases.

E. Learning Resources

1. Required Text(s)

McClave, Statistics for Business and Economics, 11th ed. Prentice-Hall 2008
2. Essential References Moore, Introduction to the Practice of Statistics, 8th ed. Freeman, 2008
3. Recommended Books and Reference Material (Journals, Reports, etc) (Attach List) Groebner, Business Statistics: A Decision Making Approach, 5th ed. Prentice-Hall 2001
4. Electronic Materials, Web Sites etc http://www.basicstat.com/
5. Other learning material such as computer-based programs/CD, professional standards/regulations

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Lecture rooms, laboratories, etc.) Air-conditioned rooms (25 seats) Air-conditioned Labs (25 computers)
2. Computing resources Internet connection and a website for each faculty member.
3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list)

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching A student-feedback form is distributed at the end of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department The director of the EMBA program attends at least one class to evaluate it.

3. Processes for Improvement of Teaching Developing the lectures periodically.
4. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent faculty member of a sample of student work, periodic exchange and remarking of a sample of assignments with a faculty member in another institution) Meetings are conducting with teachers for checking the grading of the exams
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. 1. Teachers' survey 2. Students' survey