Texas A&M University – Commerce
Department of Business Administration and MIS

Course Title: BA 501 Quantitative Analysis for Managers
Course Location/Time: Online
Instructor: Ken Bandy, Ph.D.  Office Hours:  By Appointment
Contact Information: Kenneth.Bandy@tamuc.edu


http://highered.mcgraw-hill.com/sites/0073401803/information_center_view0/

Course Description: This course satisfies the MBA background requirements for quantitative analysis and production management techniques. The course will cover descriptive statistics, inferential statistics and math models with business applications to analyze management and organizational problems. Specific topics include: measures of central tendency and variation, probability distributions, estimation, hypothesis testing, regression and correlation, decision theory, linear programming, transportation and assignment models, and inventory management and queuing theory models. Prerequisites: Math 175 or 141.

Course Objectives: There are 24 course objectives. By the end of this course you will:

1. Know the definition of inferential statistics.
2. Be able to identify the measures of central tendency.
3. Know the definition of variance.
4. Be able to calculate the mean for grouped data.
5. Be able to calculate the variance for grouped data.
6. Know the definition of probability.
7. Be able to calculate a probability using the general rule of addition.
8. Know how to determine the random variable of a normal distribution.
9. Be able to use the normal distribution table to solve a problem.
10. Be able to calculate the mean and variance of a binomial distribution.
11. Be able to use the binomial distribution tables to solve a problem.
12. Be able to use the Poisson distribution table to solve a problem.
13. Know the definition of a sampling distribution of means.
14. Know the central limit theorem.

15. Know the definition of a random sample.

16. Know the definition of a Type I and a Type II error.

17. Be able to calculate a confidence interval to estimate a population parameter.

18. Be able to test a statistical hypothesis.

19. Know how to test the hypothesis involving a small sample size.

20. Know the interpretation of the coefficient of determination.

21. Know the definition of correlation.

22. Know the definition of least squares.

23. Know how to calculate a correlation coefficient.

24. Know how to calculate a regression equation.

**Earning Grades:**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Quantity</th>
<th>Value</th>
<th>Extended</th>
<th>Your Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>1 each</td>
<td>200</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Quizzes</td>
<td>25 each</td>
<td>20</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>700</td>
</tr>
</tbody>
</table>

**Homework problems:** The eCollege quiz system is used in lieu of homework problems. This practice leverages the automatic grading component of the quiz system to provide immediate feedback. You may take and retake each assigned quiz until the quiz closes. Each quiz is open for a minimum of three (3) days. To master statistical analysis one must solve many problems of increasing difficulty. Thus, it is critical that you solve as many problems as is necessary to succeed on the final exam. Solving sample problems in assigned chapters along with additional problems at the end of each chapter will enhance your learning experience.

**Discussion/Group Area in eCollege:** A discussion area for each chapter covered in this class is available in eCollege. ALL QUESTIONS related to chapter problems must be posted to their appropriate discussion area. DO NOT send questions about specific chapter problems to the instructor via email. The discussion areas are used to answer questions so that all students may benefit from both the question and the response. YOU WILL RECEIVE EXTRA CREDIT when you quickly, accurately, and originally answer questions posted to the discussion areas. In this manner you can help one another. If you merely repeat another student’s correct response I can not assign extra credit – be first.
Course Policies:

Grading Scale:

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = 59% or less

Academic Integrity: Academic integrity is the pursuit of scholarly free from fraud and deception and is an educational objective of this institution. Academic dishonesty included, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students involved in academic dishonesty will fail the course.

Software Piracy: Students may use University Microcomputer Laboratories and software designed to run on personal computers. Much of this software is of a proprietary nature, and its duplication is strictly prohibited. Unauthorized copying is prohibited by the University, and violates the University’s software licensing agreements and various federal and state laws. Any student who engages in unauthorized software copying will fail the course and will be referred to university officials for further disciplinary action.

Conduct: “All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment” (Student Guide Book, pp. 67-73).

Late Assignments: Assignments/quizzes are due on specific dates, as assigned. Assignments/quizzes will not be accepted after the due date, unless previously authorized by the instructor.
### Tentative Course Schedule

**FIRST DAY OF CLASS MONDAY, March 23, 2015!**

<table>
<thead>
<tr>
<th>Week of (Monday)</th>
<th>Topics</th>
<th>Chapter</th>
<th>Due</th>
</tr>
</thead>
</table>
| 3/23/2015        | What is Statistics  
Describing Data | Chs. 1,& 2  
Read Only | Week 1: Tuesday |
|                  | Describing Data: Numerical Measures | Ch. 3 Quiz A | Week 1: Saturday |
| 3/30/2015        | Describing Data: Displaying & Exploring Data | Ch. 4 Quiz A Quiz B | Week 2: Tuesday |
|                  | Probability | Ch. 5 Quiz A Quiz B | Week 2: Saturday |
| 4/6/2015         | Discrete Probability Distributions  
Queuing Theory | Ch. 6 Quiz A Quiz B | Week 3: Tuesday |
|                  | Continuous Probability Distributions | Ch. 7 Quiz A Quiz B | Week 3: Saturday |
| 4/13/2015        | Sampling Methods & the Central Limit Theorem | Ch. 8 Quiz A Quiz B | Week 4: Tuesday |
|                  | Estimation & Confidence Intervals | Ch. 9 Quiz A Quiz B | Week 4: Saturday |
| 4/20/2015        | One-Sample Test of Hypothesis | Ch. 10 Quiz A Quiz B | Week 5: Tuesday |
|                  | Two-Sample Test of Hypothesis  
Decision Theory | Ch. 11 Quiz A Quiz B | Week 5: Saturday |
| 4/27/2015        | ANOVA  
Linear Programming | Ch.12 Quiz A Quiz B | Week 6: Tuesday |
|                  | Linear Regression & Correlation  
Transportation/Assignment | Ch. 13 Quiz A Quiz B | Week 6: Saturday |
| 5/4/2015         | Multiple Regression  
Inventory | Ch. 14 Quiz A Quiz B | Week 7: Tuesday |
|                  | Chi Square Applications | Ch. 17 Quiz A Quiz B | Week 7: Saturday |
| 5/11/2015        | Final Exam | | Week 8 |