Name: Kent Riggs, Ph.D. 
Department: Mathematics and Statistics
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Phone: 468-6263
Office: 350 NM
Office Hours: 9-11 on TuTh, or by appointment.
Class meeting time and place: 11-11:50 on MWF, Mathematics 212

Course Description: Probability, random variables, mean and variance, binomial distribution, normal distribution, statistical inference, and linear regression.

Text and Materials:
MTH 220 Introduction to Probability and Statistics: Case Study Manual (provided on D2L)
For the Weiss book you need not purchase an access code for MyStatLab. Rather, you only need a copy of the text as a reference and to work problems by hand. I recommend you purchase a used copy online (e.g. amazon, etc…) for less money!

Course Requirements:
Homework, Quizzes, Project, and Exams

Homework
Practice problems (homework) will be posted on D2L as well as assigned from the Weiss text. While these problems will not be taken up and graded, they will indirectly substantially affect your grade as these “types” of problems shall appear on quizzes and exams.

Quizzes
Quizzes will be done during class time. I will return graded quizzes to you as soon as possible. There are no make-up quizzes. I will allow the lowest quiz grade to be replaced by the final exam if you have sufficient attendance as described below.

Projects
Two group projects shall be completed during the semester. Details regarding the project(s) are forthcoming.

Final Exam
There are no make-ups for missed exams, so make every effort to be at class on exam day. If you know ahead of time that you will miss an exam, see me at least one class before the scheduled exam and we will work something out. Department policy requires that you bring and be recognizable from either your SFASU Student ID or another valid photo ID before you are permitted to take each exam.
Grading Policy: The final average will be computed using the following weights:

- Quizzes: 50%
- Projects: 20%
- Final exam: 30%

Attendance Policy:
Attendance is expected. Any student that misses more than 6 classes is not guaranteed to have his/her final exam replace the lowest quiz grade.

Tentative Course Calendar: (See Last Page)

Course outline: Approximate time spent

- **Probability**: 5%
  - Classical Probability
  - Probability Laws (Rules)
  - Counting Techniques
- **Probability Distributions**: 10%
  - Random Variables
  - Discrete Distributions
    - Binomial Distribution
  - Continuous Distributions
    - Normal Distribution
- **Descriptive Statistics**: 10%
  - Graphical Display of Data
  - Measures of location
  - Measures of Dispersion
- **Sampling Distributions**: 15%
  - Random Samples
  - Central Limit Theorem
- **Statistical Inference**: 40%
  - Estimation
    - Point Estimation
    - Interval Estimation
  - Hypothesis Testing
- **Linear Regression**: 20%

Academic Integrity (A-9.1):
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been
purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

**Withheld Grades Semester Grades Policy (A-54):**
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

**Students with Disabilities:**
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

**Acceptable Student Behavior**
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

**Program Learning Outcomes:**
This is a general education core curriculum course and no specific program learning outcomes for this major are addressed in this course.

**Student Learning Outcomes (SLO):** At the end of MTH 220, a student who has studied and learned the material should be able to:
1. Exhibit an understanding of basic probability rules and concepts [CO:1,3]
2. Demonstrate an understanding of different probability models and ways they are used in statistical inference. [CO: 1, 2, 3]
3. Demonstrate an understanding of point estimation of population parameters. [PLO: 1,3]
4. Demonstrate an understanding of interval estimation about population parameters and inference that can be drawn from such techniques. [CO: 1,3]
5. Demonstrate an understanding of hypothesis testing concerning population parameters and inference that can be drawn from such techniques. [CO:1,3]

**General Education Core Curriculum**
The Texas Higher Education Coordinating Board has identified six core learning objectives: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and
Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives.

By enrolling in MTH 220 you are also enrolling in a Core Curriculum Course that fulfills the Critical Thinking Skills, Communication Skills, and Empirical/Quantitative Skills requirement. You will see this course on your D2L list. At one point during the semester, you will receive an assignment that fulfills both the requirements of this course and the needs of Stephen F. Austin State University’s Core Curriculum Assessment Plan with the Texas Higher Education Coordinating Board. When you complete this one assignment, you need to upload the assignment to both your standard course dropbox determined by your Instructor and the “Core Curriculum” dropbox. The Core Curriculum dropbox will be identified by the Objective for which work is being collected. (Examples: Critical Thinking, Teamwork, Social Responsibility Empirical & Quantitative Skills, Personal Responsibility, Communication Skills-Written, Communication Skills-Written & Visual, and Communication Skills- Oral & Visual.) Please note that this only applies to the approved assignment. All other assignments should be submitted according to regular class operations.

When you complete the assignment mentioned above, you will upload the assignment to both MTH 220 dropbox and the Core Objective dropbox.

Please note that this only applies to the specific assignment listed in the matrix below. All other assignments should be submitted according to regular class operations.

If you have any questions, please see your instructor, or contact the Office of Student Learning and Institutional Assessment at (936) 468-1130.

The chart below indicates the core objectives addressed by this course, the assignment(s) that will be used to assess the objectives in this course and uploaded to the D2L Core Objective dropbox this semester, and the date the assignment(s) should be uploaded to the D2L Core Objective dropbox. Not every assignment will be submitted for core assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in the D2L Core Objective dropbox.

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Title</th>
<th>Date Due in D2L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills</td>
<td>To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Communication Skills</td>
<td>To include effective development, interpretation and expression of ideas though written, oral, and visual communication.</td>
<td>N/A</td>
<td>N/A</td>
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<td>Empirical and Quantitative Skills</td>
<td>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</td>
<td>N/A</td>
<td>N/A</td>
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<td>#</td>
<td>Week of</td>
<td>Topic(s)</td>
<td>Introduction</td>
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<td>1</td>
<td>August 27</td>
<td>Syllabus and Introduction</td>
<td>Introduction</td>
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<tr>
<td>2</td>
<td>September 3</td>
<td>Binomial Distribution</td>
<td>Binomial Distribution / Case Study 1A</td>
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<td>3</td>
<td>September 10</td>
<td>CS 1A</td>
<td>Quiz 1 (10%)</td>
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<td>4</td>
<td>September 17</td>
<td>Normal Distribution</td>
<td>Case Study 1B</td>
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<td>September 24</td>
<td>CS 1B</td>
<td>Quiz 2 (10%) / Case Study 2A</td>
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<td>6</td>
<td>October 1</td>
<td>Descriptive Stats</td>
<td>Descriptive Stats / CS 2A</td>
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<td>October 8</td>
<td>CS 2A</td>
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<td>October 15</td>
<td>CS 2A</td>
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<td>October 22</td>
<td>CS 2A / Project Work</td>
<td>Project I DUE (7%) / Case Study 3a</td>
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<td>October 29</td>
<td>CS 3A</td>
<td>CS 3A</td>
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<td>November 5</td>
<td>CS 4</td>
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<td>November 12</td>
<td>CS 4</td>
<td>CS 4 / Project II Preparation</td>
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<td>13</td>
<td>November 19</td>
<td>THANKSGIVING HOLIDAY</td>
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<td>November 26</td>
<td>CS 5</td>
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<td>15</td>
<td>December 3</td>
<td>Ketchup / Project II Work</td>
<td>Project II Presentations (13%)</td>
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<td>16</td>
<td>December 10</td>
<td>FINAL EXAM (30%)</td>
<td>December 10th 10:30-12:30</td>
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