Name: Kent Riggs, Ph.D.
Department: Mathematics and Statistics
Email: riggske@sfasu.edu
Phone: 468-6263
Office: 350 NM
Office Hours: 9 -11:30 on TuTh, or by appointment.
Class meeting time and place: 10-10:50 on MWF, Mathematics 204

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)

Course Requirements:
Homework, Quizzes, Project, and Exams

Homework
Practice problems (homework) will be posted on D2L. 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 project shall be completed during the semester. Details regarding the project(s) are forthcoming.

Midterm Exam and 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>50%</td>
</tr>
<tr>
<td>Projects</td>
<td>15%</td>
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<tr>
<td>Midterm Exam</td>
<td>15%</td>
</tr>
<tr>
<td>Final exam</td>
<td>20%</td>
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</table>
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:  
- Probability  
  - Classical Probability  
  - Probability Laws (Rules)  
  - Counting Techniques  
- Probability Distributions  
  - Random Variables  
  - Discrete Distributions  
    - Binomial Distribution  
  - Continuous Distributions  
    - Normal Distribution  
- Descriptive Statistics  
  - Graphical Display of Data  
  - Measures of location  
  - Measures of Dispersion  
- Sampling Distributions  
  - Random Samples  
  - Central Limit Theorem  
- Statistical Inference  
  - Estimation  
    - Point Estimation  
    - Interval Estimation  
  - Hypothesis Testing  
- Linear Regression

Approximate time spent  
- Probability 5%  
- Probability Distributions 10%  
- Descriptive Statistics 10%  
- Sampling Distributions 15%  
- Statistical Inference 40%  
- 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/](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**
This course has been selected to be part of Stephen F. Austin State University’s core curriculum. The Texas Higher Education Coordinating Board has identified six objectives for all core courses: 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.

Assessment of these objectives at SFA will be based on student work from all core curriculum courses. This student work will be collected in D2L through LiveText, the assessment management system selected by SFA to collect student work for core assessment. LiveText accounts will be provided to all students enrolled in core
courses through the university technology fee. You will be required to register your LiveText account, and you will be notified how to register your account through your SFA e-mail account. If you forward your SFA e-mail to another account and do not receive an e-mail concerning LiveText registration, please be sure to check your junk mail folder and your spam filter for these e-mails. If you have questions about LiveText call Ext. 1267 or e-mail SFALiveText@sfasu.edu.
<table>
<thead>
<tr>
<th>#</th>
<th>Week of</th>
<th>Topic(s)</th>
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<th>Introduction</th>
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<tr>
<td>1</td>
<td>January 15</td>
<td>Introduction / Probability</td>
<td>Binomial Distribution</td>
<td>Binomial Distribution / Case Study 1A</td>
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<td>CS 1A</td>
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<td>Case Study 1B</td>
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<td>CS 2A / Descriptive Stats</td>
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<td>CS 2A</td>
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<td>CS 3a</td>
<td>Catch Up</td>
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<td>March 19</td>
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<td>CS 3a</td>
<td>CS 3b</td>
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<td>Quiz 4 (10%) / Project Preparation</td>
<td>Project Work /</td>
<td>Catch Up</td>
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<td>CS 4</td>
<td>CS 5</td>
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<td>April 9</td>
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<td>April 30</td>
<td>Final Exam Review</td>
<td>Project II Presentations</td>
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<td>May 7</td>
<td>Final Exam (20%)</td>
<td>Project II Presentations</td>
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Final Exam (20%)

Monday, May 7
10:30 a.m. - 12:30 p.m.