***COURSE***: MATH 1387 Elementary Statistical Methods with Honors

***TEXTBOOK***: Bluman, Allan G., *Elementary Statistics: A Step by Step Approach, A Brief Version*, any edition, ISBN: 9780073386119 or Sullivan, Michael, *Fundamentals of Statistics*, any edition, ISBN: 9780321844606 or Triola, Mario, *Essentials of Statistics*, any edition, ISBN: 9780321836960.

***INSTRUCTOR:***XXX, **E-Mail:** XXX, ***OFFICE:***MAGC XXX, ***TELEPHONE:***665-XXX
***OFFICE HOURS:*** *XXX*

***TOPICS***: Topics include statistical graphs, measures of central tendency and dispersion, linear regression and correlation, empirical and theoretical concepts of probability, combinations, permutations, the Central Limit Theorem, interval estimation, and hypothesis testing. Recommended for majors or minors in biology, business, community services, law enforcement, nursing, political science, psychology, sociology, and others who need to interpret data and make simple statistical inferences.

***CALCULATORS:*** It is advantageous to obtain a graphing calculator, such as a TI-83 or TI-84. I personally recommend a TI-83; calculators may be rented from the math department at no cost to you. However, any calculator such as a TI-30X is fine, but some sort of calculator is needed for this course. Cell phones, pocket organizers, handheld laptops and computers will not be allowed during exams.

***PREREQUISITE*:** College Ready TSI status in Mathematics Courses or College Ready for Non-Algebra Intensive Mathematics Courses. Successful completion of any of the developmental mathematics initiatives (MATH 0290, MATH 0320, or MATH 0330) will allow one to enter the course.

***HOMEWORK/ONLINE ASSESSMENTS:*** Each homework assignment will consist of approximately ten problems. Please show your work for each problem as a correct answer will no work will receive zero credit. Homework may be administered in class and/or online.

***QUIZZES*:** There will be brief and sporadic quizzes throughout the semester that will be based on homework exercises. These also may be administered in class or online.

***EXAMINATIONS:*** There will be several one-class period length exams, along with a final exam on selective topics. There will be a Final Exam administered during Finals week. Please check my.utrgv.edu to find the official posting.

***GRADING POLICY and GRADE DISTRIBUTION*:** The grading policy is the standard letter grade (A, B, C, D and F); 90 – 100% A; 80 – 89% B; 70 – 79% C; 60 – 69% D; otherwise F. Homework / Online Assessments (X%), Quizzes (X%), Tests (X%) and Final (X%).

**Student Learning Objectives/Outcomes for the Course**

After completing this course, students will be able:

1. Distinguish between a population and a sample, and to identify which is a representative sample and which is not.
2. Understand the difference between Statistics and Probability, and explain the role of probability in statistics.
3. Represent given data through tables or pictures.
4. Understand the differences between central tendencies and dispersions and be able to use calculators to calculate them.
5. Solve linear regression and correlation problems.
6. Get heuristic ideas while looking at univariate and bivariate data and be able to draw conclusions on the required parameters.
7. Calculate probabilities for binomial and normal probability distributions and use binomial and normal probability tables.
8. Calculate confidence intervals and do testing of hypotheses using Normal table and t table for p-values and critical values.

**Learning Objectives for Core Curriculum Requirements**

This course satisfies the UTRGV core curriculum mathematics requirement. By completing the UTRGV core curriculum in mathematics, students should be able to:

1. Apply arithmetic, algebraic, geometric, higher-order thinking and statistical methods to modeling and solving real-world situations.
2. Represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically.
3. Expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.
4. Use appropriate technology to enhance mathematical thinking and understanding to solve mathematical problems and judge the reasonableness of the results.
5. Interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them.
6. Recognize limitations of mathematical and statistical models.
7. Develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

**Course Policies:**

1. Any student absent more than three (3) days may be dropped from the course.
2. No late work will be accepted.
3. Use of unfair means during an examination will be viewed very seriously. No notes or textbook will be allowed during an examination.
4. Talking is not permitted during class discussions unless it pertains to the topic and material.
5. Late comings and early goings are discouraged unless there is an emergency.
6. All cell phones are to be kept off.

**The following are ways to get free help outside of class:**

1. Contact your instructor during their office hours or make appointment.
2. Get free Math tutoring from Learning Assistance Center (LAC) building in  Room 114 phone # 665-2532. (Edinburg Campus)
3. Get free Math tutoring from Math Lab in Math building (MAGC) in room  MAGC 1.106 (Edinburg Campus)
4. Visit the Math Tutoring Lab at SETB 1.408 (Brownsville Campus)
5. Visit the Math and Natural Sciences Learning Center at Cavalry Hall; Phone number: (956) 882-7058, (956) 882-8208 (Brownsville Campus)

**NEW UTRGV Core Objectives**

Students finishing a core curriculum course will be able to demonstrate the following objectives:

* ***CRITICAL THINKING (CT)*** is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. This definition meets the THECB’s direction that critical thinking includes creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information; and is aligned with the UTRGV’s SLO for critical thinking skills.

In this course student will encounter a wide variety of problems asking them to apply tools learned for statistical analysis to new situations to assist in making conclusions. This process provides the backbone of the critical analysis of problems involving data that occur in almost every field of study.

Student learning objectives 1, 2, 5, 6, 7 and 8 align with this core objective. They will be assessed through specific questions on the tests and/or the final exam used in the course. Grading for correctness will assess this.
* ***COMMUNICATION SKILLS (COM)*** include the development, expression, and revision of ideas through the effective use of language (writing, reading, speaking, and listening) across a variety of forums. Communication involves learning to work in many genres and styles while using different technologies, can result in mixing texts, data, and/or images, and develops through diverse experiences across the curriculum. This definition meets the THECB’s direction that communication skills include effective written, oral, and visual communication; and is aligned with UTRGV’s SLO for communication skills.

A strong focus of this course is to develop in students the ability to discuss mathematical and statistical ideas with fluency to both experts in mathematics and those with less experience. For many problems the process of the solution is as or more important than the solution itself, making communication a natural skill developed by the course.

Student assessments (both summative and formative) used for student learning objectives 1, 2, 3, 4, 5, and 7 will address the development of students’ communications skills in the course. A quiz, test or discussion board showing the student’s written answer will be graded for correctness and assessed for communication skills.
* ***EMPIRICAL AND QUANTITATIVE SKILLS (EQS),*** which involve numeracy or quantitative reasoning, include competency in working with numerical data and mathematical reasoning. Individuals with strong mathematical skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They interpret data and results and can create conjectures and arguments supported by quantitative evidence and/or mathematical reasoning, which they can clearly communicate in a variety of formats (using words, tables, graphs, and/or equations as appropriate). This definition meets the THECB’s direction that empirical and quantitative skills include applications of scientific and mathematical concepts; and is aligned with UTRGV’s SLO for empirical and quantitative skills.

The course strongly centers on the empirical and quantitative skills objective, which permeates almost every topic included in the course and course objectives. The qualitative and quantitative analysis of data is the core content of the course. These will be assessed through specific questions on the tests used in the course.

Student assessments for student learning objectives 2, 4, 5, 7 and 8 will address the development of students’ empirical and quantitative skills in the course. A quiz, test or discussion board showing the student’s written answer will be graded for correctness and assessed for quantitative skills.

**UTRGV Policy Statements**

**Students with Disabilities**

If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. **Brownsville Campus**: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at accessibility@utrgv.edu. **Edinburg Campus:** Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at accessibility@utrgv.edu.

**Mandatory Course Evaluation Period**

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Online evaluations will be available Nov. 18 – Dec. 9, 2015. Students who complete their evaluations will have priority access to their grades.

**Attendance**

Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

**Scholastic Integrity**

As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

**Sexual Harassment, Discrimination, and Violence**

In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

**Course Drops**

According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

**Electronic Communication Policy**

The university policy requires all electronic communication between the University and students be conducted through the official University supplied systems; namely UTRGV account for email or Blackboard for course specific correspondence. Therefore, please use your UTRGV assigned e-mail or Blackboard account for all future correspondence with UTRGV faculty and staff.