***COURSE:***MATH 1343 – Introduction to Biostatistics

***TEXTBOOK:***

Title: Biostatistics for the Biological and Health Sciences, Second Edition.

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Publisher: Pearson Education, 2018.

ISBN:  978-0-13-403901-5

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

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

***COURSE DESCRIPTION:*** Topics include introduction to biostatistics; biological and health studies and designs; probability and statistical inference; one- and two-sample inference for means and proportions; one-way ANOVA and nonparametric procedures.

**TEXTBOOK AND/OR RESOURCE MATERIAL:** XXX will be followed.

***COURSE WEBSITE*:** Some class notes, assignments, homework and other course materials and announcements will be posted on BLACKBOARD. Students are expected to check BLACKBOARD frequently.

**STATISTICAL SOFTWARE:** Statistical software will be used in this class. Handouts and instruction of how to use the software for specific assignments will be given. You are welcome to use any other statistical software packages that you are familiar with Excel, R, Minitab, SAS, SPSS, or Stata.

***GRADE DISTRIBUTION*:** Students will be evaluated based on their performance in exams, tests, homework and attendance. The relative importance of each is listed below.

Course grades will be determined by 90~100=A, 80~89=B, 70~79=C, 60~69=D, 50~59=F.

A grade of Incomplete (I) can be given ONLY in the event that an authorized absence or circumstances beyond your control were the cause of your missing a small portion of the course. This grade is not to be given because you feel that you have too much other work or study to do or because you think that you will not earn an acceptable grade in the course.

#### *COPYRIGHT NOTICE*: All class notes, handouts, exams, solutions, etc. are copyrighted and may not be reproduced and distributed without the instructor's written permission.

**Student Learning Outcomes for Biostatistics:**

1. Describe the basic concept of biostatistics and illustrate how biostatistics helps to solve real-world problems.
2. Comprehend some popular biostatistical designs including data collection and handling.
3. Represent and evaluate basic biostatistical information verbally, numerically, graphically and symbolically.
4. Describe probability and probability distributions in the context of statistical problems.
5. Comprehend various inferential techniques that include one- and two-sample inferences for mean and proportion, analysis of variance, basic regression analysis and some nonparametric procedures.
6. Identify procedures appropriate (and inappropriate) to a given situation and carry out appropriate statistical procedures.
7. Interpret results from those statistical methods and communicate with other people.
8. Recognize the limitations of specific statistical methods.
9. Develop the view that statistics is an evolving discipline, identify that it is interrelated with human culture, and establish its connections to other disciplines.

***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, 3, 5, 6, 7, and 8 align with this core objective. They will be assessed through specific questions on the tests used in the course.
* ***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. In the area of health, the communication of correct mathematical and statistical conclusions is of the utmost importance in the practice of the tools learned in this course.

Student assessments (both summative and formative) used for student learning objectives 2, 3, 6, 7, 8, and 9 will address the development of students’ communications skills in the course.

* ***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.

**UTRGV POLICY STATEMENTS**

**STUDENTS WITH DISABILITIES**

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.

**Student Accessibility Services:** 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 ability@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 ability@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. 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 (including self-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 that is free from sexual misconduct and discrimination. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at 665-8287, 882-8282, or OVAVP@utrgv.edu.

**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.

**STUDENT SERVICES**

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)

Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)

Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)

Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)