

Instructor:	Jerome Keating
Phone:	(210) 458-5370
Email:	jerome.keating@utsa.edu Students are to use UTSA provided email accounts, rather than personal email accounts, for University business.
Office:	BB 4.06.12B
Office Hours:	TBD and by appointment
Class:	STA 4903 Applied Survival Analysis (CRN: 20460)
Meeting:	MW 2:30 – 3:45 PM
Room:	BB Collaborate Ultra (August 23, 2021 – September 09, 2021) BB 3.02.16 – (September 14, 2021 – December 07, 2021)
Duration:	Aug 23, 2019 – Dec 02, 2021 (last day of class)
Holidays:	Labor Day (Monday September 06, 2021) – NO CLASS
Last Day:	Drop without a grade: Wednesday, September 13, 2021 – 50% refund Drop individual class for an automatic W: Monday, October 25, 2021
Final Exam:	Monday Dec 07, 2019 5:00 – 6:50 PM BB 3.06.12
Course Evaluation Dates:	November 15, 2021 – November 29, 2021

STA 4903 Applied Survival Analysis – (3-0) 3 hours credit. Prerequisite: STA 3523 or an equivalent. Measures of survival, hazard, mean residual life function, common failure distributions, procedures for selecting an appropriate model, the proportional hazards model. Emphasis on application and data analysis using SAS. Differential Tuition: \$126.

Required Text:	Statistical Methods for Survival Data Analysis, Fourth Edition (2013)
Publisher:	John Wiley & Sons
ISBN:	978-1-118-59305-9
Authors:	Elisa T. Lee and John W. Wang
Recommended:	Survival Analysis Using the SAS System,
Author:	Paul D. Allison, SAS Institute.
ISBN:	978-1-59994-640-5

Instructor Biography:

Personal webpage: <https://business.utsa.edu/faculty/jerome-keating>

I prefer to be called Dr. Keating or Professor. I am excited to be part of your academic journey this semester. I have been teaching for 40+ years and have been at UTSA since 1981. I am the Peter T. Flawn Professor of Statistics since 2002 (reappointed in 2021), a member of the UTSA Academy of Distinguished Teaching Scholars (ADTS) since 2015, the recipient of the UT System's Regents Outstanding Teaching Award (ROTA) in 2015, the recipient of the Chancellor's Council Teaching Award for excellence in teaching undergraduates in 1995 and 2001, the recipient of the UTSA President's Distinguished Award for Teaching Excellence in 1989 and 2001. I am an elected Fellow of the American Statistical Association (ASA) since 1997 and the 2006 recipient

of the Don Owen Award in Statistics. I am a native Texan and have lived in Texas except for two years. I love college football, studying the bible and spending time with my family.

Class Schedule

<u>Class</u>	<u>Day</u>	<u>Date</u>	<u>Reading</u>
1	M	23-Aug	Chapter 1 – Introduction
2	W	25-Aug	Chapter 2 – Functions of Survival Times
3	M	31-Aug	Chapter 2 – Functions of Survival Times
4	W	02-Sep	Chapter 2 – Functions of Survival Times
	M	06-Sep	Labor Day – No Class
5	W	08-Sep	Chapter 3 – Examples of Survival Data
6	M	13-Sep	Chapter 4 – Nonparametric Estimation
7	W	15-Sep	Chapter 4 – Nonparametric Estimation
8	M	20-Sep	Chapter 4 – Nonparametric Estimation
9	W	22-Sep	Review
10	M	27-Sep	Exam 1
11	W	29-Sep	Chapter 5 – Nonparametric Comparisons
12	M	04-Oct	Chapter 5 – Nonparametric Comparisons
13	W	06-Oct	Chapter 6 – Distributions
14	M	11-Oct	Chapter 6 – Distributions
15	W	13-Oct	Review
16	M	18-Oct	Exam 2
17	W	20-Oct	Chapter 7 – Estimation
18	M	25-Oct	Chapter 7 – Estimation
19	W	27-Oct	Chapter 7 – Estimation
20	M	01-Nov	Chapter 8 – Graphing Survival Data
21	W	03-Nov	Chapter 9 – Goodness of Fit
22	M	08-Nov	Chapter 9 – Goodness of Fit
23	W	10-Nov	Chapter 11 – Regression Analysis
24	M	15-Nov	Chapter 11 – Regression Analysis
25	W	17-Nov	Chapter 12 – Cox Proportional Hazard
26	M	22-Nov	Chapter 12 – Cox Proportional Hazard
28	W	24-Nov	Presentations
	R	25-Nov	Thanksgiving – No Class
29	T	29-Nov	Presentations
30	R	01-Dec	Review
31	T	08-Dec	Final - @ 1:00 – 2:50 PM

Grading Policies: Grades will be determined from the following:

- Homework and SAS assignments | 30 %
- Exams (2) | 40 %
- Final Exam and Project | 30 %
- We will use the \pm grading policy

Attendance Policy: It is important to attend every class; exams are based primarily upon the lectures. Some topics are not contained in the book, whereas others are discussed in detail. In the event you miss a class, please obtain a copy of the class notes. Make-up exams and other late work will only be given if prior approval is obtained from the instructor and only for university-approved reasons such as participation in sanctioned extramural activities, documented illness, death in the immediate family, etc.

Course Objectives:

This course has the following objectives in support of the Bachelor's Degree in Statistics or another area of Science:

- 1) Students will use parametric tests to draw inferences about population parameters
- 2) Students will analyze data using linear models (such as Weibull and Cox regression)
- 3) Students will learn SAS and demonstrate proficiency

Course Goals:

This course has the following goals in support of the Bachelor's Degree in Statistics or another area of Science

- 1) Students will acquire statistical and mathematical methods to process information in the presence of uncertainty.
- 2) Students will communicate the results of their statistical analyses in writing.
- 3) Students will be skilled in data collection, data organization, and modeling.
- 4) Students will learn to use and adapt modern technology to assist in decision making.

The goal of this course is to teach students the fundamental concepts of survival analysis with an emphasis on modeling and data analysis. Students are required to analyze biomedical, census and demographic data sets using SAS, and assess the fit of the models.

Course Scope:

This course will introduce censoring and truncation, nonparametric estimation, inference for parametric models, Proportional Hazards models, and Parametric Regression Models.

Accommodations:

The Office of Disability Services is the only university body who may issue instructions for special academic accommodations. If you require such accommodations you have to register at that office; see <http://www.utsa.edu/disability/students.htm>

Academic Misconduct:

Students are responsible for learning and understanding the UTSA policy on academic misconduct. The student code and related matters can be found at:

<http://www.utsa.edu/infoguide/appendices/b.html> under section 203.

The Quality Enhancement Plan (QEP) is a course of action designed to enhance student learning and is a required component of the accreditation process conducted by the Southern Association of Colleges and Schools (SACS).

The UTSA QEP Quantitative Scholarship: From Literacy to Mastery, provides you with the skills needed to evaluate and interpret data, understand risks and benefits, and make informed decisions in your personal and professional lives. The plan focuses on integrating quantitative reasoning and communication skills in existing courses across the undergraduate curriculum.

All UTSA students, faculty, and staff are encouraged to learn more about the QEP by visiting the website www.utsa.edu/qep

University Policy on Scholastic Dishonesty:

Students are expected to be above reproach in scholastic activities. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the University.

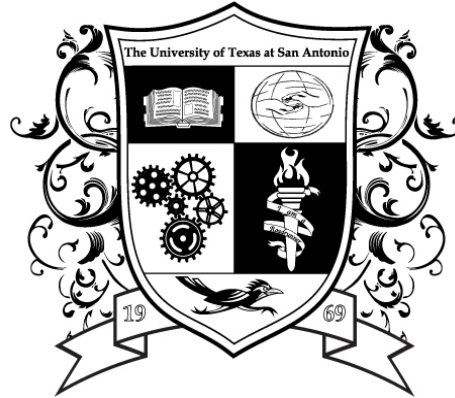
“Scholastic dishonesty includes, but is not limited to,

- 1) cheating,*
- 2) plagiarism,*
- 3) collusion,*
- 4) the submission for credit of any work or materials that are attributable in whole or in part to another person,*
- 5) taking an exam for another person,*
- 6) any act designed to give an unfair advantage to a student or the attempt or commit such acts.”*

See Regents’ Rules of Regulations, Part 1, Chapter VI, Section 3, Subsection 3.2, subdivision 3.22. Since scholastic dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced.

The University of Texas at San Antonio is a community of scholars, where integrity, excellence, inclusiveness, respect, collaboration, and innovation are fostered.

Roadrunner Creed



As a Roadrunner,

I will:

- Uphold the highest standards of academic and personal integrity by practicing and expecting fair and ethical conduct;
- Respect and accept individual differences, recognizing the inherent dignity of each person;
- Contribute to campus life and the larger community through my active engagement; and
- Support the fearless exploration of dreams and ideas in the advancement of ingenuity, creativity, and discovery.

Guided by these principles now and forever, I am a Roadrunner!

The University of Texas at San Antonio Academic Honor Code

A. Preamble

The University of Texas at San Antonio community of past, present and future students, faculty, staff, and administrators share a commitment to integrity and the ethical pursuit of knowledge. We honor the traditions of our university by conducting ourselves with a steadfast duty to honor, courage, and virtue in all matters both public and private. By choosing integrity and responsibility, we promote personal growth, success, and lifelong learning for the advancement of ourselves, our university, and our community.

C. Shared responsibility

The University of Texas at San Antonio community shares the responsibility and commitment to integrity and the ethical pursuit of knowledge and adheres to the UTSA Honor Code.