MKT6971 Special Topics (Practicum 1)

CRN: 18282 Spring Semester, 2021

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Office Hours: No official ones but I can meet you days, evenings, weekends

COURSE OVERVIEW:

The primary objective of this course is to prepare students for dealing with real world data challenges and gain some initial data analytics experience without the burden of coding. In addition, it will prepare you for a later course in which time series will be covered more in-depth. The course has a number of components and is designed to be flexible to accommodate students at different points in the learning curve in the program. Keeping with the mission of adapting the coursework in the program to meet industry needs, this first practicum allows the student to gain experiential knowledge using real data sets and applying statistical techniques. In addition, there is the completion of a set of foundational statistical knowledge modules. We know that students have come to the program with a wide variety of skills and backgrounds and these modules make sure that statistical fundamentals are in place as they progress through their first semester courses.

COURSE OBJECTIVES:

1. Provides students with an initial code-free analytics platform to encourage them to discover the world of analytics. While the platform is code free, the time series concepts and fundamentals learned are intermediate in level and prepare the student for the time series materials covered later in the program.

2. Ensure, through the use of modules, that the student is familiar with basic statistical terms and concepts that are expected out in the work place.

3. Presents examples of data analytics and solutions that broaden the student's appreciation of the complexities of business challenges.

4. Supplement the skills and knowledge in data analytics that will be needed to work effectively at an external practicum in Practicum II.

PEDAGOGICAL APPROACH:

In-Class Time Structure – the class is scheduled for W 1930-2020 and the class mode will be hybrid. That means that I will lecture both live (synchronous) which allows you to ask questions and also it will be recorded (asynchronous) so you can review it at any time. The class is only 50 minutes long, so please log into the zoom session on time as I will start from minute 1 onward. Missing 10 minutes of class is missing 20% of it, so please be prompt.

Data Sets: I will provide some smaller real world time series data sets in GRETL form for assignments. You will have to hunt online for your own data sets for the time series project.

COURSE ASSESSMENT & GRADING:

Your grade in the course will be determined as follows:

Assessment 1: Projects (1)	40%
Assessment 2: Evaluation Modules (6)	25%
Assessment 3: Exercises (3)	35%

Assessment 1: Project
The project is a time series project that will put together all of the time series knowledge and GRETL skills to complete a time series project analyzing a data set of your choice. This is an individual project that will allow you to demonstrate a basic understanding of time series concepts and basic analytics.

Assessment 2: Evaluation modules.
You are expected to use your own words in completing each of the six modules and not copy and paste answers obtained from resources like the web. If your answers start sounding like statistics textbooks you are likely not to get credit for the answer. These modules reinforce the basic statistical fundamentals you should already know. Employers are known to question job candidates on basic statistical knowledge and you are likely not to get the job if you are a support vector machine expert but don't know basic statistical fundamentals.

Assessment 3: Exercises

A set of 3 exercises will be assigned throughout the semester. These exercises are designed to allow students the opportunity to try out different analytical techniques that have been discussed in the course.

Grading Rhetoric

90-100 A 80-89 B 70-79 C

Calendar of activities

Session	Date	Day	Topic	Mini-pod	Assessment
1	1/20	W	Review of course syllabus and IDRE chart. Down load GRETL		Module 1 part 1 assigned
2	1/27	W	Durbin Watson test		Module 1 part 1 due Module 1 part 2 assigned Exercise 1 – Durbin Watson assigned
3	2/3	W	Time Series Fundamentals part 1		Module 1 part 2 due Module 2 part 1 assigned Exercise 1 due
4	2/10	W	Time Series Fundamentals part 2		Module 2 part 1 due Module 2 part 2 assigned
5	2/17	W	GRETL – a quick tour GRETL - reading in data – excel example GRETL – plotting time series data set Display data Reading in data		Module 2 part 2 due Module 3 part 1 assigned

Session	Date	Day	Topic	Mini-pod	Assessment
6	2/24	W	The concept of differencing times series data Examples of differencing time series data eyeball method Understanding and reading acf and pcf graphs Using acf graph to detect non-constant mean		Module 3 part 1 due Module 3 part 2 assigned
7	3/3	W	Assessing constant mean Aug Dickey Fuller (ADF) Schwert calculation for ADF lag Unit root tests KPSS Phillips Perron test		Module 3 part 2 due Exercise 2 – unit root tests assigned
8	3/10		Spring Break		

	3/17		ARIMA part 1 Basics of the model		Exercise 2 unit root due
9	3/24		ARIMA part 2 Evaluating goodness of fit statistics – AIC, BIC Schwartz, Hannan Quinn		
10	3/31		ARIMA part 3 Ljung Box test, graphs and forecasting in GRETL		Exercise 3 – ARIMA fundamentals assigned
11	4/7		ARIMA model issues		Exercise 3 due
12	4/14		ARCH test and GARCH models		Time Series Project Assigned
13	4/21		Holt Winter Models		

14	4/28		Unobserved Components Models		Time Series Project due

Public Health Considerations

The health and safety of our campus community is a shared responsibility of all Roadrunners. It is important to note that none of us can guarantee a COVID-19-free environment. We all must, however, follow the guidelines outlined in the UTSA Public Health Task Force Report ("Report"), and any other applicable policies as may be communicated by the University from time to time. This will include regulating behaviors outlined in the Report including face coverings, daily symptom checks and other appropriate public health behaviors associated with a shared responsibility of reducing transmission of COVID-19. Students, staff and faculty must complete a mandatory compliance training module and self-monitor for COVID-19 symptoms using the UTSA Health Self-Assessment tool before coming to campus (Refer to UTSA's Coronavirus website, the UTSA mobile app, and the LiveSafe app). In addition, students, staff and faculty must get tested if you are showing COVID-19 symptoms and communicate any COVID-19 related health concerns to your supervisor or professor. Failure to abide by these guidelines and requirements may result in disciplinary action in accordance with the student code of conduct or applicable employment policies and procedures. Violations should be reported to the Office of Institutional Compliance via the UTSA Hotline for appropriate action.

For Face to Face Classroom and Other Academic Sessions

All members of the UTSA community are required to wear face coverings while on campus (unless in an enclosed office alone, or outdoors where six feet of social distancing is possible, or as otherwise stated below). Face coverings are required for all students while in class—regardless of the size of the class, the number of students present, or even if other students state they are comfortable if someone isn't masked. If students do not have a face covering when they come to class, they may be asked to leave. If a student has a medical reason that would prevent him/her from wearing a face covering in an academic setting, accommodations can be assessed through Student Disability Services.

Additional Faculty Responsibilities

It may be acceptable for faculty to remove face coverings during lectures where a separation of a minimum of six feet can be maintained. Face shields will be made available for special needs and situations. In case contact tracing becomes necessary, faculty will maintain attendance records for all face to face classroom and other academic sessions. Faculty are expected to address students who are not following the above-mentioned procedures while in the classroom. If a student refuses to comply, the faculty must ask the student to leave the classroom and inform the student that he/she cannot return to class until he/she has a face covering on or complies with any other applicable procedure, and must document the incident. If there is any subsequent violation by such student, the faculty member must ask the student to leave the classroom and refer the incident to Student Conduct and Community Standards. The escalation process will follow normal university guidelines through the Student Code of Conduct.

Class Format - Fall 2020

Class sessions for this course will be offered online only until September 19. Class sessions will meet using Zoom on the date and time listed in the course syllabus and Fall class calendar. From September 19 until November 21, classes will be offered on campus in a face-to-face format. If you are unable to attend in person, you will attend the class sessions via the Zoom platform at the scheduled date and time.

All activities for this course will be online only after the Thanksgiving break.

Please note: For the health and safety of students and faculty, this course may be moved fully online at any time during the semester.

APPENDIX I: 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.

B. Honor Pledge

In support of the ideals of integrity, the students of The University of Texas at San Antonio pledge:

"As a UTSA Roadrunner, I live with honor and integrity."

C. Shared responsibility

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

APPENDIX II: The Roadrunner Creed

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

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!