

**Criminal Justice 7350I**  
**Introduction to Structural Equation Modeling**  
**Texas State University**  
**Fall 2017**  
**Professor Vásquez**

**Description, Objectives, and Prerequisite**

This is a doctoral-level course in statistics and data analysis for students who actually intend to engage in quantitative data analysis for research purposes. The course provides an introduction to structural equation modeling, which is sometimes called mean and covariance structure analysis or latent variable analysis. The general topics include recursive and nonrecursive models, path analysis, measurement models, and factor analysis.

Techniques will receive theoretical treatment, but this is not a theoretical statistics or calculus-based course. The objective of the course concerns the application of the techniques, and the interpretation of estimates generated with a computer. The course will, *in a very obvious way*, assume the student has the understanding of regression provided by CJ 7321 and access to LISREL, Mplus, SPSS, and Stata software.

**Class Meeting Time and Place**

This class meets Monday at 6:30PM-9:20PM in Hines Academic Center room 203.

**Contact Information, Office Hours, and Email Message Policy**

Bob Edward Vásquez, Ph.D.  
Hines Academic Center, 126  
Wednesday 2:30 PM - 3:15 PM, and by appointment  
Phone: (512) 245-8460  
E-mail: Bob.Vasquez@txstate.edu

Students with appointments are given priority over “walk-ins,” phone calls, and email messages, so try to set up an appointment with me. I strive to respond to email messages within 24 hours of receiving them. Email messages should contain a greeting, a body, and a closing. Send professional email messages if you expect a response. *I do not respond to incomplete email messages or messages that do not have sentence structure.*

**Attendance Policy**

Attendance is required in this course, and tardiness irritates me and disrupts the class. Absences will be disastrous for your progress and grade. Do not miss class. It is in your personal interest to attend class. Statistical knowledge builds on itself, and my lectures will assume knowledge and understanding of previous lectures. If you get behind, you will find it exceedingly difficult to catch up.

Students should be mentally present too, a reason why there is no use of mobile phones and other such devices or distractions during class. Students should expect to take extensive notes during lecture. *\*\* I do not provide lecture notes to students. I do not provide make-up lectures for absent students. I do not allow any audio or visual recordings of my lectures.*

## **Text and Materials**

The following two textbooks are required, and should be available at the university bookstore. Articles for the course will be uploaded on TRACS as needed. You will also need a three-ringed hard-covered binder, plenty of paper, a writing instrument, and a scientific calculator. A graphing calculator is not needed. *Bring all materials to every class.*

### **Required**

Eliason, S. R. (1993). *Maximum likelihood estimation: Logic and practice*. Sage.

Kline, R. (2010). *Principles and Practice of Structural Equation Modeling* (3<sup>rd</sup> ed.). New York: Guilford Publications.

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. American Psychological Association.

## **Exams, Grading, and Late Work**

There will be three equal-weight exams over the span of the semester. Exams are take-home assignments due *approximately* one week after they are assigned.

|          |                                 |
|----------|---------------------------------|
| Exam I   | Due October 9, 2017             |
| Exam II  | Due November 27, 2017           |
| Exam III | Due December 11, 2017 (8:00 PM) |

Late work is not accepted. If the assignment is not in my hands on or before the time it is due, the assignment is late. Assignments are due at the beginning of class.

## **Students with Special Needs**

If you are a student with a disability who will require an accommodation(s) to participate in this course, please contact me as soon as possible. You will be asked to provide documentation from the Office of Disability Services. Failure to contact me in a timely manner may delay your accommodations.

## **Academic Dishonesty and Honor Code**

It is expected that students do their own work in my class. This is a University-wide expectation, and academic penalties exist for violating the Honor Code Policy, which I provide below.

### **Texas State University Honor Code**

As members of a community dedicated to learning, inquiry, and creation, the students, faculty, and administration of our University live by the principles in this Honor Code. These principles require all members of this community to be conscientious, respectful, and honest.

**WE ARE CONSCIENTIOUS.** We complete our work on time and make every effort to do it right. We come to class and meetings prepared and are willing to demonstrate it. We hold ourselves to doing what is required, embrace rigor, and shun mediocrity, special requests, and excuses.

**WE ARE RESPECTFUL.** We act civilly toward one another, and we cooperate with each other. We will strive to create an environment in which people respect and listen to one another, speaking when appropriate, and permitting other people to participate and express their views.

WE ARE HONEST. We do our own work and are honest with one another in all matters. We understand how various acts of dishonesty, like plagiarizing, falsifying data, and giving or receiving assistance to which one is not entitled, conflict as much with academic achievement as with the values of honesty and integrity.

**THE PLEDGE FOR STUDENTS**

Students at our University recognize that, to insure honest conduct, more is needed than an expectation of academic honesty, and we therefore adopt the practice of affixing the following pledge of honesty to the work we submit for evaluation:

I pledge to uphold the principles of honesty and responsibility at our University.

**THE PLEDGE FOR FACULTY AND ADMINISTRATION**

Faculty at our University recognize that the students have rights when accused of academic dishonesty and will inform the accused of their rights of appeal laid out in the student handbook and inform them of the process that will take place.

I recognize students' rights and pledge to uphold the principles of honesty and responsibility at our University.

**ADDRESSING ACTS OF DISHONESTY**

Students accused of dishonest conduct may have their cases heard by the faculty member. The student may also appeal the faculty member's decision to the Honor Code Council. Students and faculty will have the option of having an advocate present to insure their rights. Possible actions that may be taken range from exoneration to expulsion.

(For more information, visit <http://www.txstate.edu/effective/upps/upps-07-10-01.html> )

**Course Calendar**

| <b>Dates</b>  | <b>Topic</b>                                 | <b>Readings</b>   |
|---|--|---|
| August 28;<br>September 11  | Standard Linear Model and Maximum Likelihood | Eliason (1993);<br>Kutner et al. (2004, Chapters 1-3, 5-7, and Appendix A)  |
| September 18,<br>25   | Structural Component                         | Kline (2010); Krohn et al. (1996)   |
| <b>**TEST 1 Assigned October 2**</b><br><b>** (DUE October 9, 2017) **</b>                                |  |   |
| October 2, 9,<br>16, 23, 30   | Measurement Component                        | Thompson (2004);<br>Loftin and Parker (1985)  |
| <b>**TEST 2 Assigned November 20**</b><br><b>** (DUE November 27, 2017) **</b>                            |  |   |
| November 6,<br>13, 20, 27,<br>December 4  | Full SEM and Software                        | Kline (2010);<br>Matsueda and Anderson (1998); Krohn et al. (2011);<br>Marsh et al. (2004);<br>McDonald and Ho (2002) |
| <b>**TEST 3 Assigned December 4**</b><br><b>** (DUE December 11, 2017) **</b><br><b>(8:00 PM-10:30PM)</b> |  |   |

Test dates are subject to change. Attend all classes.