COURSE SYLLABUS
Statistics for Public Administrators
PADM 5312-001
SPRING 2012
Tuesday 7:00 – 9:30 pm

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Office Hours: Tuesday 11:00 a.m. – 12:30 p.m. and 5:00 – 7:00 p.m., Wednesday 11:00 am – Noon, Thursday 11:00 am – 12:30 pm by appointment as necessary.

COURSE DESCRIPTION

“Statistics: The only science that enables different experts using the same figures to draw different conclusions.”

Evan Esar
Esar's Comic Dictionary
1948

COURSE DESCRIPTION:

This course provides an overview of statistical methods and hands-on application to managerial decision-making in public administration. Understanding statistical analysis and being able to work with data are important competencies of professionalism in public administration. Course topics include data collection and measurement in public administration, descriptive statistics, hypothesis testing, processes for selecting statistical tests and assessment of statistical assumptions, measures of association and other bivariate statistics, index variable construction, regression analysis, and an overview of selected other statistical and quantitative methods applied to problems of public administration. Students get hands-on experience through the use of EXCEL. Recognizing the social, political, and economic context of data collection, analysis, and reporting practices in the public sector, this course also discusses the ethics of data analysis and information technology policy and management.

Note: This course is part of a two-semester sequence that also includes a course on research methods. Students are expected to have a working familiarity with Microsoft Excel and PowerPoint.

STUDENT LEARNING OUTCOMES:

At the conclusion of this course the successful student in this course will:
1. Demonstrate a substantial understanding of the each of the statistical concepts covered in PADM 5312
the course through successful completion of homework assignments and exams.

2. Utilize the SPSS statistical analysis software to assisting in statistical analysis.

3. Properly apply statistical techniques and analysis to current, relevant data sets to simulate a decision making opportunity the student may confront in professional life.

**REQUIRED TEXTS:**


Some late model version of IBM® SPSS® Statistics Base GradPack at the minimum. The University does have several computer labs with the latest full version of SPSS. The base grad pack will do what we need however and can be rented for 6 months or a year at a reasonable price. See Elite graduate link [http://sell.tamu.edu/Students/Student_Software_List.php](http://sell.tamu.edu/Students/Student_Software_List.php).

**STUDENTS WITH DISABILITIES:**

The Americans with Disabilities Act (ADA) requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Disability Services Office at (361) 825-5816 or visit the office in Driftwood 101.

**ACADEMIC ADVISING OFFICE**

If you are majoring, or planning to major, in a field taught in the College of Liberal Arts, and if you have not yet obtained a signed degree plan, you should see your Academic Advisor immediately. Degree plans are important and useful to successful progress toward graduation.

**LEARNING ASSESSMENT/COURSE REQUIREMENTS:**

In general, your grade for each assignment will follow these guidelines:

**Grade Standard:**

**A (90-100%)**: Meets all requirements of the assignment in a sound, clear, thorough, and professionally presented manner. Analytic tools are applied appropriately, performed correctly, and interpretations are accurate.

**B (80-89%)**: Meets almost all of the requirements in a sound, clear, thorough, and professionally presented manner; or meets all of the requirements but lacks soundness, clarity, thoroughness, or professional presentation. Analytic tools are mostly applied appropriately, PADM 5312
performed correctly, and interpretations are mostly accurate.

C (70-79%): Meets some of the requirements in a sound, clear, thorough, and professionally presented manner; or meets all of the requirements but lacks a combination of soundness, clarity, thoroughness, or professional presentation. Analytic tools are not applied appropriately, or not performed correctly, or interpretations are not accurate.

D or F (<70%): Less than the standard for “C”. Both of these grades are failing. All course requirements must be completed to receive a grade from this course.

This course relies heavily on student attendance and interaction. Attendance and punctuality are expected in all classes. Your absence from this class will be detrimental to your grade. Class work cannot be learned in absentia, and on-time attendance is expected. Each class will be devoted to discussion and analysis of the specific topics indicated for that class on the syllabus. It is important that each student come to each class well prepared to participate in discussions.

The distribution of points is as stated below. All final grades are curved, and are whole letter (no plusses or minuses).

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ACADEMIC HONESTY:

All responses and worked turned in to the instructor are to be your own personal work product. You are expected to understand and uphold the Academic Honor Code published in the Student Handbook. In addition to information listed in these sources, you are advised that:

1. If, on a rare occasion, you take material that is not yours, from any source whatsoever, and copy it into assignments for this class, you must provide a footnote, endnote, or parenthetical reference to the source of the material. I
specifically expect you to use the styleguide of the American Psychological Association.

2. Any material which quotes verbatim from other sources must be enclosed in quotation marks and its source attributed as noted in rule #1 above.

3. Material not taken verbatim from a text but paraphrased must also be attributed as in rule #1.

4. Violations of these rules in any assignment may be subject to a minimum penalty of a grade of zero (0) for the assignment and may result in a grade of "F" for the course.

5. Violations of these rules can also result in administrative removal from the MPA program and the University depending on the instance.

IMPORTANT NOTES

1. Syllabus Disclaimer and Changes. The instructor reserves the right to make changes in the syllabus. Such changes will be announced in class.

2. Attendance Policy. No points are deducted for student absences but, the lack of class attendance will affect student learning and, hence, performance.

3. Late Hand-in. Acceptance of late hand-ins or postings is at the discretion of the instructor. Points will be deducted for late hand-ins.

4. Distance Learning. Electronic, on-line learning may be substituted for in-class lectures. Students are responsible for accessing modules and completing assignments according to announced time tables.

5. Computer and Software Access. The hands-on, computer-based laboratory assignments are an important part of homework and this course. You will need to have access to SPSS, at least the graduate base version. I suggest that you install it on your own computer. If you do not have easy access to a computer there are student computer labs on campus which have the full version of SPSS.

6. Rules and Tips for Success. Statistics is a challenging course for most students, and most students will experience one or more episodes of moderate to severe confusion. Though these are normal occurrences in the practice and study of statistics, the sources of confusion must be identified and addressed. To reduce such episodic discomfort and promote learning efficiency, students are required to adhere to the following rules: (i) Students must come to each class prepared, that is, having fully familiarized themselves with the reading material and any assignments, specifically, identifying passages that are unclear and hence require extra attention.
during the classroom period. Students who fail to identify unclear passages prior to class typically experience a deceptive sense of ease during the class, only to be followed by intensified confusion at some point in subsequent weeks. *Remember:* Preparing for class means that you know what you *don’t* know. (ii) Students should always study with other students before and after each class. You can make a study group, or simply call each other a day or two before and after each class. The nature of such interaction can vary from joint reading, to verifying each other’s understanding of the material, and addressing points of uncertainty. (iii) Students who are unclear about material should generally *first* consult other students before contacting the instructor. Questions that remain unclear after consultation with other students should be brought to the attention of the instructor, who generally will discuss the matter at the beginning of the next classroom period. The preferred way of contacting the instructor is through e-mail. (iv) As the saying goes, technology fails you when you need it most. Files become unreadable or simply disappear. Software programs fail to open, and computers go on the blink. Successful students plan ahead and allow for unexpected failures and crises to occur. Specifically, you should plan to complete your homework several days before the deadline!

7. *Contacting the Instructor.* The preferred way of contacting the instructor is through e-mail or during office hours. I check my e-mail almost daily (except when on travel), and will respond. If you send an e-mail, I may ask you for a phone number to contact you for follow-up, if necessary.

8. *Student Conduct.* Students should conduct themselves in ways that are consistent with promoting an efficient learning environment for themselves and everyone else. Students should be conscientious, helpful, properly motivated to learn, honest, and respectful of others and their opinions at all times. Such conduct is consistent with generally regarded norms of professionalism, including those found in graduate, professional degree programs. Points may be deducted for inappropriate conduct, and students referred to the University for further investigation of the matter.

Students should also familiarize themselves with the university Code of Student Conduct. Academic misconduct includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, and any act designed to give an unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructors, providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment), or the attempt to commit such an act. Other acts of misconduct are stated in the Code of Student Conduct. Please note that plagiarism is a serious academic offense that may result in a student being expelled from an academic program or institution.

9. *Grade Appeal Process.* As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of
the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html.

For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

COURSE OUTLINE

Note: The following readings include more information than we will emphasize or address in class. Before each week, I will let you know what we will cover so that you can focus on the appropriate material.

January 17th  Why Statistics and Data Analysis?
Readings: See handouts attached to Blackboard.
* Introduction to the course and course requirements
* Key empirical questions about programs and policies
* Sources of data
* Presentation of findings

January 24  Introduction to SPSS
Readings: Cronk Chapters 1 & 2
* Getting familiar with SPSS
* Data input using SPSS
* Frequency distributions, recoding data, bar charts, calculating means
Assignment 1 -- Practice Exercises 1.6, p 9 and 1.7 p. 11 Cronk due Jan 31.

January 31  Univariate Analysis
Reading: Chapter 11 O’Sullivan
* Frequency distributions
* Averages and central tendency
* Variation and dispersion
* z-score
Assignment 2 – Problem 6 p. 360 O’Sullivan a-d. Due Feb 7.

February 7  Visual presentation of data with crosstabs and graphs using SPSS.
Readings: Chapters 3 & 4 Cronk.
* Using and understanding the descriptive statistics procedures.
* Using SPSS to create Z-scores
* Creating histograms, bar charts, scatter plots and box plots in SPSS.
Assignment 3 Practice Exercises 3.1, p 22, 3.2, p24, 3.3, p 26, 3.4 p. 29, 3.5, p.31, 4.2 p 36, 4.4, p. 41, 4.5 p. 43. Due Feb 14.
February 14  Exam 1 Disk work P. 362. O’Sullivan. Due February 21. Voluntary workshop in class that night on SPSS in computer lab to be named later.

February 21  Bi-variate relationships.
Readings:  Chapter 12 O’Sullivan. Chapter 6, Cronk 57 -59, Chapter 7 Cronk 93-108.
* Stating the null hypothesis.
* The alpha level
  * Type 1 errors
  * Type 2 errors.
* Steps to test a hypothesis.
* Nonparametric
  * Chi-Squared
  * Mann-Whitney
  * Wilcoxon

February 28  Bi-variate relationships continued
Reading:  Chapter 6 Cronk p.57- 69.
* Computing parametric measures of association
  * Single sample t-test
  * Independent samples t-test
  * Paired samples t-test

March 6  **Exam 2 Disk work P. 392 O’Sullivan. Due March 20.** Voluntary workshop in class that night on SPSS in computer lab to be named later.

March 13  Spring Break !!!!!

March 20  Measures of Association
Reading:  Chapter 13 O’Sullivan 396 – 401; Handout
* Constructing and interpreting contingency tables.
* Using the SPSS crosstabs function to create contingency tables.
Assignment 6 – Questions 1 & 2 p. 420 O’Sullivan Due March 27

March 27  Measures of Association (continued)
* The logic of a measure of association
* Selecting a measure of association
  * Lambda
  * Cramers V
April 3  Measures of Association – ANOVA
* variance within and between groups
Readings O’Sullivan 413- End of chapter. Cronk 45 – 47; 69 – 85
Assignment 8 – Practice exercises 5.1 p 47. 6.5, p. 74; 6.6, p. 77, 6.7, p. 81, 6.8 p. 85, Cronk.Due April 10

April 10  Exam 3 – Disk work P. 425 1-3. Due April 17.  Voluntary workshop in class that night on SPSS in computer lab to be named later.

April 24  Simple Regression
* The regression equation
* The problems of regression
  * The assumptions
  * Testing the assumptions
* Interpreting the output.
  * The correlation coefficient.
  * The constant
  * The regression coefficient
  * The coefficient of determination
  * The standard error of the slope.
Assignment 9 – Practice Exercise 5.3, p 53 Cronk, Question for Review 1 a – j.

April 25  Multiple Regression
* Dummy variables
* Measure of Association
* Beta weights
* Multicollinearity

May 1  Components of a Report.
Reading: O’Sullivan Chapter 15
* Finishing what you started in PADM 5311.
Exam 4: Disk Work P 463 1-3. Due May 8 10pm.
May 8       Final Exam Due