STUDENTS ARE REQUIRED TO READ THIS ENTIRE SYLLABUS.

Course Number: POLS 3374 **Course Title**: Quantitative Methods for Political Science

Semester, Year: Fall 2017 **Section**: **01** **CRN**: 81578 **Credit Hours:** 3

Class Meetings: Mondays-Wednesdays-Fridays, 09:00–09:50 am, CHSS 495 (lab)

Professor: R. M. Bittick, M.P.A., Ph.D. **Office**: SHSU Campus, CHSS 483

Contact Information: **E-mail**: rmb004@shsu.edu. **Phone**: 936-294-4105.

Office Hours: I regularly maintain office hours Mondays-Wednesdays-Fridays: 11:00 am – 12:00 noon (walk-in or by phone; no appointment necessary). I am willing to meet with students by appointment at other mutually agreeable times.

My policy is to respond to email messages weekdays within 48 hours of receipt, or by Monday for messages sent on Friday or over a weekend.

Be sure to put "**POLS 3374**" in the subject heading of your email message.

Class Website: Go to the SHSU main website [http://www.shsu.edu/] and click on Campus Tools at the top of the page, and click "Blackboard" from that menu. Students are required to access this website before each class.

Course Description: the following is from the SHSU University Catalog:

> **POLS 3374 Quantitative Methods for Political Science.** This is an introduction to research design and quantitative methods used in contemporary political science research. Students will apply the tools of social science inquiry in a series of projects designed to examine such phenomena as political attitudes and behavior. Emphasis is on the use of descriptive statistics; tabular and graphic presentation of data; measures of association and correlations; and multivariate analysis in political research. Prerequisites: 3 hours in POLS. Credit 3.

Introduction: Welcome to *Quantitative Methods for Political Science*! This course will proceed at a brisk pace. So, prepare yourself for a very challenging course. ***This is not a math course*!** Rather, this is a course in political science that uses statistics (and thus, **we use some math**) to analyze data and make appropriate decisions concerning matters related to the various sub-fields of political science (e.g. American Government and Politics, International Relations, Comparative Politics, Public Policy and Public Administration, and even Political Philosophy/Theory, etc.).

Learning statistics requires a great deal of work. For those of you who experience **`math anxiety`**, you may have to work harder in this class than in many of your other classes. At times the class may seem to move so fast that you feel like you are on a statistics roller coaster. So, brace yourself and plan adequate study time as necessary.

I will do what I can to help you succeed in this course. My lectures are designed to help make sense out of the information contained in the text. Therefore, you must first read the assigned material and attempt to do each homework assignment prior to class even if the homework problems do not initially make sense to you. Since you must

practice to be successful with statistics, try working other homework problems (especially if you do not feel confident with a particular statistical tool). Learning statistics is like learning a foreign language: it takes consistent practice. Therefore, **you must be diligent and plan the time necessary to complete each reading assignment and do the homework assigned each week.** Experience shows that students who "cram" for the statistics exams wind up with poor grades. In contrast, consistently reading the assigned chapters and doing the assigned homework has proven to be the best way to approach this class.

Learning Outcomes – Goal and Objectives:

Course Goal: the primary goal of this course is to equip students to apply the knowledge and skills of statistical analysis to political science problems. This includes interpreting the results, applicable for public agencies as well as graduate school.

Course Objectives:
Knowledge:

- Define the Levels of Measurement and associated types of data involved in statistical analysis; identify the levels of measurement used in statistical problems;
- Explain the properties of the normal curve in relation to probability;
- Identify and state the research hypothesis from a given problem;
- Distinguish population and sample data, know the difference between a parameter and a statistic, and distinguish between the associated statistical tools used to analyze population and sample data.
- Analyze whether a significant difference exists between the sample mean and the population;
- Identify the purpose and appropriate use of a Chi-Square analysis.
- Explain the assumptions of correlation and regression analysis, and be able to distinguish between the purposes of correlation and regression.

Competencies & Related Skills:

- Classify specific statistical tools to associated Levels of Measurement.
- Identify the type of data being measured on a given table of data.
- Calculate and interpret a rate and rate of change.
- Calculate the Measures of Central Tendency and the Measures of Variability given a set of data, and analyze the inferences of the computations.
- Determine the accuracy of the Mean value given the Range and Standard Deviation for a given set of data.
- Solve a basic probably problem given a set of data.
- Solve a probability problem, and compute the percentile rank of a data point using a normal curve.
- Calculate and interpret a confidence interval problem, including making recommendations concerning the accuracy of the estimate for managerial decision-making.
- State, calculate, and interpret a Hypothesis Test for the Difference Between Two Means, including writing out the Research and Null Hypothesis.
- Interpret the statistics associated with ANOVA.
- Calculate and interpret Nonparametric Tests of Significance/Chi-Square test.

- Interpret a Pearson's *r*, and contrast two Pearson's *r* values.
- Identify the independent and dependent variables from a given statement.
- Construct, calculate, and interpret a given regression equation problem as instructed.

Values:

- Discriminate between quantitative evidence and normative values in political decision-making and analysis.
- Use data that are fair, accurate, and complete, and report results according to principles of full disclosure.

Assessment: In-class discussions and examples, homework, and exams.

Required Textbook:

- Jack Levin and James Alan Fox. 2011., ***Elementary Statistics in Social Research: The Essentials*, third edition**. Allyn & Bacon publishers. ISBN: 9780205638000.

Optional Textbooks:

- Sally Caldwell. 2010. *Statistics Unplugged,* 4th edition. Wadsworth CENGAGE Learning. ISBN: 9780840029430.
- Larry Gonick and Woollcott Smith. 1993. *The Cartoon Guide to Statistics*, first edition. HarperPerennial. ISBN: 9780062731029
  - ✓ These books are **not** required for this class, but you may find either helpful.

Required supplies: students must bring a **calculator** to each class. The calculator must have the basic functions, including **a square-root key**.

Activities of Participants:

- **Class Attendance Policy**: **Class Attendance is mandatory. Also, students must access class modules in Blackboard before each class**. In addition, I reserve the right to adjust the class schedule and reading assignments as necessary. Consequently, you must consistently attend class to ensure you have the most recent information concerning the class schedule and reading assignments.
  - **If you are not able to access course modules and complete assignments on a regular basis, you must drop the course and take it in a future semester. The professor reserves the right to deduct 10% from the final course grade should a student miss more than three (3) unexcused absences.**
- **Assigned Readings.** These are listed on the schedule, below. Because this course covers a lot of material, you must plan ahead to schedule your reading time appropriately.
- **Exams:** Four (4) exams are scheduled for this course. Each exam can require students to write out definitions of statistical concepts, work our problems mathematically, and write out the interpretation of various statistics covered in class.
  - **You must show your work to receive credit for problems on each exam.**
  - **No Make-up exams are allowed in this class.**
  - **All exams count toward your final grade.**

- **Memo**: One (1) Memo is scheduled for this course. Instructions will be provided.
- **Homework Packages**: Homework assignments are assigned at the end of each class. I may also assign additional homework at the end of each class. You must read each assignment and attempt to complete the assigned homework before class. Homework is due on the day of each exam, *prior* to administering the exam. *Late homework is not accepted without my prior approval.*

  Homework packages must have your name plainly written at the top of the first page, be stapled, and have each chapter highlighted for each set of homework problems assigned. If I am not able to find each chapter in your homework package, you will not receive credit for that chapter. I review completed homework package for **Credit or No Credit**, but **do not assign a letter grade**. Incomplete homework assignments shall not receive credit.

  "Practice Problems" are assigned during the semester. These are not awarded points, but are assigned to help you prepare for the exams and the memo. Students do not turn in practice problems.

Grading Plan: Grading will be as follows:

Exams & Homework	**Points Possible**
Exam #1	100
Exam #2	100
Exam #3	100
Exam #4	100
Memo	50
Homework Packages	100
Total Points Possible:	550

Points based on the grade earned for each completed assignment are based on my evaluation of your work. The percentage scale for the final grade follows:

Percentage of Total Points Earned	**Final Grade**	**Percentage of Total Points Earned**	**Final Grade**
90% - 100%	A	60% – 69%	D
80% - 89%	B	59% & Below	F
70% - 79%	C	Below 0%	Take a basic math course

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All university rules and procedures apply to this class.

Students must download and read the document, **Student Guidelines**, found at: http://www.shsu.edu/dept/dean-of-students/policies/documents/Student+Guidelines+2013-2016.pdf

The Academic Policy Manual can be accessed at: http://www.shsu.edu/dept/academic-affairs/aps/aps-students.html

ACADEMIC DISHONESTY: The policy on **Academic Dishonesty** can be accessed at: http://www.shsu.edu/dotAsset/728eec25-f780-4dcf-932c-03d68cade002.pdf

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

STUDENT ABSENCES ON RELIGIOUS HOLY DAYS POLICY: The policy about **Student Absences on Religious Holy Days**: http://www.shsu.edu/dotAsset/0953c7d0-7c04-4b29-a3fc-3bf0738e87d8.pdf8

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911 (a) (2) defines a religious holy day as: "a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20…." A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

STUDENTS WITH DISABILITIES POLICY: The policy concerning **Students with Disabilities** can be accessed at: http://www.shsu.edu/dotAsset/187f9029-a4c6-4fb4-aea9-2d501f2a60f3.pdf

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance are expected to visit with the Office of Services for Students with Disabilities located in the Counseling Center. They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential.

NOTE: Accommodations may not be able to be made until you register with the Counseling Center.

INSTRUCTOR EVALUATIONS: Students will be asked to complete a course/instructor IDEA evaluation online toward the end of the term.

VISITORS IN THE CLASSROOM:

Only registered students may regularly attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not disrupt the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

CLASSROOM BEHAVIOR:

Students shall turn off or silence their cell phones once class begins. Students shall not engage in phone conversations or text messaging during class. Students shall not engage in side conversations during class.

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Schedule: The professor reserves the right to change the schedule. Revisions to this schedule will be linked to the class website in Blackboard.

Week	Dates	Topics – Readings – Assignments
1	Wednesday August 23rd	Topic: Syllabus & Course Overview. Read: Syllabus.
	Friday August 25th	Topic: Levels of Measurement & Math Review. Read: Handouts and Text, ch. 1
2	Monday August 28th	Topic: Organizing the Data. Read: Handouts and Text ch. 2.
	Wednesday August 30th	
	Friday September 01st	
3	Monday September 04th	**Holiday – No Class!**
	Wednesday August 06th	Topic: Organizing the Data, **continued**. Read: Handouts and Text ch. 2.
	Friday August 08th	Topic: Measures of Central Tendency. Read: Handout and Text chs. 3.
4	Monday September 11th	Topic: Measures of Central Tendency, continued. Read: Handout and Text chs. 3.
	Wednesday September 13th	Topic: Measures of Variability. Read: Handout and Text ch. 4.
	Friday September 15th	
5	Monday September 18th	Topic: Measures of Variability, **continued**. Read: Handout and Text ch. 4.
	Wednesday September 20th	Topic: **Exam #1**: Organizing the Data, Measures of Central Tendency and Variation, Text chs. 1 - 4. **Assignment due: Homework Package for chs 1 - 4.**
	Friday September 22nd	Topic: Probability and the Normal Curve. Read: Handout and Text ch. 5
6	Monday September	Topic: Probability and the Normal Curve, **continued**.

	25th	Read: Handout and Text ch. 5.
	Wednesday September 27th	
	Friday September 29th	
7	Monday October 02nd	Topic: Samples and Populations, **continued**. **Read:** Handout and Text, ch. 6.
	Wednesday October 04th	
	Friday October 06th	
8	Monday October 09th	Topic: Samples and Populations, **continued**. **Read:** Handout and Text, ch. 6.
	Wednesday October 11th	Topic: **Exam #2**: Probability and the Normal Curve, and Samples and Populations – Text chs. 5 - 6. **Assignment due: Homework Package for chs. 5 - 6.**
	Friday October 13th	Topic: Testing Differences Between Means. Read: Handout and Text ch. 7.
9	Monday October 16th	Topic: Testing Differences Between Means, **continued**. Read: Handout, & Text chs. 7.
	Wednesday October 18th	
	Friday October 20th	
10	Monday October 23rd	Topic: Testing Differences Between Means, **continued**, and Analysis of Variance (ANOVA) Read: Handout, & Text chs. 7-8.
	Wednesday October 25th	Topic: **Exam #3**: Testing Differences Between Means, Text ch. 7. **Assignment due: Homework Package for ch. 7.**
	Friday October 27th	Topic: Nonparametric Tests of Significance: The Chi-Square Test, Nonparametric Measures of Correlation. Read: Handout and Text ch. 9.
11	Monday October 30th	Topic: Nonparametric Tests of Significance: The Chi-Square Test, Nonparametric Measures of Correlation, **continued**.

	Wednesday November 01st	Read: Handout and Text ch. 9.
	Friday November 03rd	
12	Monday November 06th	Topic: Correlation. Read: Handout and Text ch. 10. **Assignment due: Monday, November 06th: Chi-Square memo and Homework Package due for ch. 9.**
	Wednesday November 08th	
	Friday November 10tht	Topic: Regression Analysis. Read: Handout, and Text ch. 11.
13	Monday November 13th	Topic: Regression Analysis, **continued**. Read: Handout, and Text ch. 11.
	Wednesday November 15th	
	Friday November 17th	
14	Monday November 20th	Topic: Regression Analysis, **continued**. Read: Handout, and Text ch. 11.
	Wednesday November 22nd	**Holiday – No Class.**
	Friday November 24th	
15	Monday November 27th	Topic: Regression Analysis, **continued**. Read: Handout, and Text ch. 11.
	Wednesday November 29th	
	Friday December 01st	Topic: **Exam #4**: Correlation and Regression Analysis, Text chs. 10-11. **Assignment due: Homework Package for chs. 10 - 11**.
16	Wednesday December 07th	**Finals Week** Topic: **Exam #4 returned**. Meeting time: Class meets at 09:30 am in our regular classroom (lab).