Texas A & M University
Department of Recreation, Park and Tourism Sciences

RPTS 618: Quantitative Methods for Recreation, Park, and Tourism Management and Research
Spring Semester, Academic Year ____

Professor: Gary Ellis, AGLS 441, gellis1@tamu.edu; (979) 845-6018

Office Hours: Please call me for an appointment, or stop by my office. With the exception of times away for University business, I am in the office from 7:30-5:00 each day. I strongly prefer to ***not*** try to arrange meeting times via email exchanges.

Prerequisites: None

Meets: MWF 10:20-11:20, AGLS 409I

Resources:

Textbook:
Groebner, D. E., Shannon, P. W., & Fry, P. C. (2014). *Business statistics: a decision-making approach.*9th ed. Boston: Pearson

Optional:
George, M., L., Rowlands, D., Price, M., & Maxey, J. (2005). *The Lean Six Sigma pocket toolbook.* New York: McGraw-Hill.

e-learning:
An e-learning website has been established for this class. The site includes lecture notes, data sets, the course outline, assigned readings, and other resources for the class.

Minitab and EXCEL:
Minitab and EXCEL are installed in the computing labs on the 4th floor of AGLS. Minitab is also available for rent for $29.99 for six months:
http://www.minitab.com/en-us/products/minitab/education/

Course Description: Topics include sources of data; visual displays of data; modeling distributions of data; probability; sampling distributions; hypothesis testing; quantifying relations between and among variables; analysis of trends; and statistical process control.

Relevant Professional, University, and Park, Recreation, and Tourism Curriculum Standards:
The class will empower students to apply quantitative analyses to park, recreation, and tourism management processes and to analyze data from behavioral science research. It thus builds on previous coursework in management and behavioral science methods.

Learning Outcomes: By the end of the course, you should be able to…

1. *Choose and construct **visual displays of data** in ways that facilitate managerial decision-making and communicate effectively with stakeholders.*
2. *Choose appropriate **descriptive statistics** to summarize central tendency, shape, and dispersion of distributions of quantitative and qualitative data.*
3. *Describe basic concepts of **probability** and explain the role of probability in **hypothesis testing**.*
4. ***Test hypotheses** under the following scenarios, using parametric statistics:*
    a. *Both independent and dependent variable are categorical (contingency tables)*
    b. *Independent variable is dichotomous and dependent variable is continuous*
    c. *Independent variable is polytomous and dependent variable is continuous*
    d. *Both independent and dependent variables are continuous*
5. *Use select **nonparametric statistics** to test hypotheses*
6. *Analyze **trends** and predict future conditions*
7. *Use **statistical process control** to monitor performance or organizations and improve quality*

Learning Activities: A list of learning activities and their relative contribution to your final grade follows.

Activity	Contribution to Final Grade
Management Quantitative Applications	25%
Midterm Exam	25%
Final Exam	25%
Critical Reading Forms	15%
Attendance	10%

Grading Standards
A 90-100
B 80-89
C 70-79
D 60-69
F 0-59

Example:
Hypothetical student "Gary" earns the following points:

Lab: Mgt Quan. Applications	80% of total points possible
Midterm Exam	90% of highest score in the class
Final Exam	95% of highest score in the class
Critical Reading Forms	75% of all points possible
Attendance and Participation	90% of class sessions attended, with appropriate involvement

Calculation: Grade, B, i.e., (.25 * 80)+(.25*90)+(.25*95)+(.15*75)+(.1*90)=86.5

Assignment Descriptions

- Management Quantitative Applications. Our class will act as a team charged by Department management to use quantitative methods to answer a series of questions to monitor performance and inform management actions. Details of the assignment and a grading rubric are provided in a separate document, "Project Charter." You can download that document from our eCampus site.

- Exams. Multiple-choice examinations will be administered at mid-term and during final exam week. The score each student receives will be her or his percentage of the highest score in the class.

- Critical Reading Forms. Please complete a "critical reading form" for each assigned reading. That form can be downloaded from our eCampus site. The CRF is intended to assist you identify the most salient content of each chapter and facilitate your understanding by building connections between the material you read and your own research interests and personal history. These are due at the beginning of the class meeting in which the topic is addressed. ***Critical reading forms will not be accepted after the class meeting.***

- Attendance. If you miss more than 10% of the class meetings due to unexcused absences, your final grade will be reduced by a full letter grade.

Attendance. This is a graduate level class and regular attendance and involvement is required. The University views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at http://student-rules.tamu.edu/rule07." If you must miss a class, please discuss your absence with the professor.

Students will not be permitted to make up work missed due to unexcused absences. All work missed due to excused absences may be completed and submitted on a date agreed to by the student and the instructor.

Disclaimer: This syllabus has been created as a guide to the class and is as accurate as possible. However, all information is subject to change as class needs change. Any changes will be discussed during class sessions and will be documented in writing.

Students with documented disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation 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 Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, you can also visit http://disability.tamu.edu.

Academic Integrity: An Aggie does not lie, cheat, or steal, and does not tolerate those who do. Academic dishonesty includes the commission of any of the following acts: cheating, fabrication, falsification,

multiple submissions, plagiarism, and complicity. Plagiarism is failure to credit sources used in an attempt to pass off someone else's work as one's own; attempting to receive credit for work performed by another; or failing to credit work obtained in whole or in part from an outside source (http:student-rules.tamu.edu/). These lists are not exclusive of any other acts that may reasonably be called academic dishonesty. A listing of prohibited behaviors can be found at http://www.tamu.edu/aggiehonor/faq.html.

Academic misconduct in research or scholarship includes fabrication, falsification, or plagiarism in proposing, performing, reviewing, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data (http://student-rules.tamu.edu/aggiecode.htm). Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, is sufficient grounds to initiate an academic dishonesty case. For additional information please visit: *http://aggiehonor.tamu.edu* .

Academic Sanctions: The instructor may assign appropriate academic sanctions based upon the specifics of the incident. The penalty for a violation shall be an "F" in the course. Less severe penalties may be imposed if the instructor considers reasonable extenuating circumstances to be present. Examples of less severe sanctions include, but are not limited to, the following:

- Receiving a course grade reduction
- Receiving a score of zero on an assignment
- Being required to participate in extra requirements for a course
- Being withdrawn from the class
- Requiring attendance at an academic integrity seminar,
- Addition of a requirement to perform appropriate university or community service
- Require restitution for damage that occurred as a result of the incident.

Grade Descriptions: The following is a general guideline for your reference. It is not meant to be exhaustive, as each individual assignment may have additional specific criteria not mentioned here, but upon which a passing grade is dependent.

A Excellent. "A" papers completely fulfill the stated purpose of an assignment, demonstrate a mastery of the topic by providing additional insights into the topic, and are interesting and engaging to read. They are concise, logically organized, fully developed, devoid of grammatical errors, thoroughly researched, and accurate. They follow directions completely, use correct documentation, and exemplify a clear, concise, and engaging style of writing.

B Above Average. "B" papers go somewhat beyond the minimum requirements for an assignment. Like "A" papers, they fulfill the stated purpose and follow instructions, yet do not display the kind of engaging and exemplary writing characteristics of an "A" paper. They contain few errors.

C Average. "C" papers represent just-acceptable college-level work and writing ability, and are of the minimum quality likely to be accepted by an employer. Overall they fulfill the assignment and follow instructions, yet may contain errors in design, content, or grammar.

D Poor/Below Average. "D" papers contain major errors or numerous minor errors. They may have failed to adequately develop a topic. They often contain problems with audience and purpose, do not follow directions, and/or show significant problems with general writing skills.

F Failing. "F" papers have one or more of the following problems: failure to follow instructions, failure to adequately demonstrate the student's mastery of the material assigned, major or numerous minor errors in content and/or format, poor or non-standard written English, reliance on a single or date source, or some form of academic dishonesty.Adapted from-- Anderson, C. (2003). English 301: Technical writing; Policy sheet and syllabus. Grade descriptions

Electronic Devices: Cell phones, text messaging, pagers and other devices that disrupt the class must be turned off. Students whose electronic devices disturb class or actions using such devices in class will be asked to leave class and receive a one-day unexcused absence.

Calendar

The topics and assignments per class session follow.

Meeting	Date	Weekday	Topic	Chapter Reading
1		M	Welcome to RPTS 618	1
2		W	Data and Data Sources	1
3		F	EXCEL and Minitab Applications and Features	2
4		M	Graphs, Charts, and Tables	2
5		W	Graphs, Charts, and Tables	2
6		F	Describing Data Using Numerical Measures	3
7		M	Describing Data Using Numerical Measures	3
8		W	Describing Data Using Numerical Measures	3
9		F	Introduction to Probability	4
10		M	Introduction to Probability	4
11		W	Introduction to Discrete Probability Distributions	5
12		F	Introduction to Continuous Probability Distributions	6
13		M	Introduction to Sampling Distributions	7
14		W	Estimating Single Population Parameters	8
15		F	Exam 1	
16		M	Introduction to Hypothesis Testing	9
17		W	Estimation and Hypothesis Testing for two Population Parameters	10
18		F	Analysis of Variance	12
19		M	Analysis of Variance	12
20		W	Analysis of Variance	12
21		F	Analysis of Variance	18
22		M	Introduction to Statistical Process Control	18
23		W	Introduction to Statistical Process Control	18
24		F	*Spring Break*	
25		M	*Spring Break*	
26		W	*Spring Break*	
27		F	Goodness-of-Fit and Contingency Analysis	13
28		M	Goodness-of-Fit and Contingency Analysis	13
29		W	Goodness-of-Fit and Contingency Analysis	13

Date	Weekday	Topic	Chapter Reading
30	F	Linear regression and correlation	14
31	M	Linear regression and correlation	14
32	W	Reading Day, Class does not meet	15
33	F	Linear regression and correlation	14
34	M	Multiple Regression Analysis	15
35	W	Multiple Regression Analysis	15
36	F	Multiple Regression Analysis	15
37	F	Analyzing and Forecasting Time Series Data	16
38	M	Analyzing and Forecasting Time Series Data	16
39	W	Analyzing and Forecasting Time Series Data	16
40	F	Introduction to Nonparametric Statistics	17
41	M	Introduction to Nonparametric Statistics	17
42	W	Introduction to Quality and Lean Six Sigma	
43	M	Select Problem-Solving Techniques of Lean Six Sigma	6σ
44	W	Select Problem-Solving Techniques of Lean Six Sigma	6σ
45	F	Select Problem-Solving Techniques of Lean Six Sigma	6σ
46	F	Review	
47	M	Final Exam	