Syllabus

Course Information

- MAT167 – 30476 Principles of Statistics
- Thursday 6:00pm to 9:00pm
- Room Number E227

Instructor Information

- Office Hours: Thursday 4:00pm till 6:00pm (Appointment Only)
- Phone Number: (860)373-0143 (Leave a message)
- Email: Padrick77@gmail.com

Course Description

This course introduces the basic concepts of statistics as they apply primarily to business, the technologies, and the social sciences. The topics include: methods of summarizing data, measures of central tendency and dispersion, correlation and linear regression, basic probability, binomial and normal distributions, hypothesis testing for one or two populations, confidence intervals, and distributions.

Prerequisite: Acceptable placement score or MAT137.

Required Text

Elementary Statistics, 11th edition, Mario F. Triola, 2010 Pearson Education Inc., ISBN 978-0-321-50024-3 (student edition)

Supplies

- Notebook
- Writing Utensil (Pencil, Blue or Black Pen)
- A Graphing Calculator (TI-83 is the preferred calculator, graphing calculator apps for your phone will not work)
- Access to a computer connected to the internet

Disabilities Statement

Students with hidden or visible disabilities who may require special accommodations and support services are encouraged to notify the instructor and Chris Scarborough (860) 892-5751, who is coordinating services to students with disabilities, during the first two weeks of class.

Academic Integrity Policy

Each Student is expected to demonstrate his/her knowledge of the subject matter on each assignment and test. Any student(s) caught cheating on a test will receive a zero for that test and will not be allowed to make-up that test.

Class Cancellation Policy

If class is canceled by the school, pay attention to radio and TV announcements, call the college's main phone number (860) 886-0177, or visit the college's homepage http://www.trcc.commnet.edu .

If class is canceled by the instructor, a notice will be placed on the classroom door. If time permits, students will be notified by email.

Method of Evaluation

- Participation and Attendance – 13 points
  - 1 Point given per day you come to class and participate
- Weekly Homework - 9 Homework Assignments – 27 points (3 points each)
  - Given at the end of the class based on the work gone over that class
- Test – 3 tests – 30 points (10 points each)
  - Given at the beginning of the class (Dates on the Assignment List)
  - Tests cannot be made up unless previous arrangements have been made. .
- Final Group Project and Presentation – 30 points
  - Group project will the following parts (24 points)
    - Creating and Implementing a Statistical Analysis of a topic you have chosen
    - Doing an In-Class presentation that will last between 15-20 minutes including Q & A with the class.
    - Turing in a 3-5 page paper that explains your procedure and results
  - Review of group participation by group members (3 points)
  - Class participation during other groups presentation (3 points)

Grading System

These letter grades and corresponding numerical grades will be used for all assignments and the course grade: A (93-100), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (63-66), D- (60-62), F (below 60)

Assignments

Assignments will be given on a weekly basis. All students are expected to work on assignments regularly and to seek assistance if the problems are not understood. All work should be kept in a notebook which may be reviewed by the instructor at any time.

Attendance

Students are expected to attend all classes, to arrive for class on time, and to remain for the duration of the class meeting. It is the student's responsibility to request any missed work, assignments, or materials before the next class. Students who are consistently tardy, leave class early, and/or walk in and out of class are a distraction to the instructor and the other students. This results in a disruption of the class and the learning process.

Rules of Conduct in Class

- Respect each person
- No food or beverages in the classroom
- Electronic devices must be turned off or silenced during class.
- Student Behavior: "*The College has the right and responsibility to take appropriate action when a student's conduct directly and significantly interferes with the College's educational mission and the rights of others to purse their educational objectives in an environment conductive to learning."* –from the TRCC Student Handbook. Such action will, at a minimum, be the dismissal of the student from the remainder of the day's class and any graded work from that day will be graded as a zero.

Assignment List

(All homework assignments are subject to change)

8/26 **Objectives** Sections 1-1 to 1-5

- Topics
  - Introduction to Statistical Thinking
  - Types of Data
  - Collection of Sample Data
- Homework
  - Pg. 38 – 40 Review Exercises #1-10

9/2 **Objectives** Sections 2-1 to 2-3 and 3-2

- Topics
  - Frequency Distribution and Histograms
  - Measures of Center
- Homework
  - Pg. 52-55 Basic Skills and Concepts # 6, 8, 10, 14, 26
  - Pg. 57-59 Basic Skills and Concepts # 2, 18
  - Pg. 94-97 Basic Skills and Concepts # 8, 17, 34

9/9 **Objectives** Section 3-3 and 3-4

- Topics
  - Measures of Variation
  - Measures of Relative Standing and Boxplots
- Homework
  - Pg. 109-113 Basic Skills and Concepts # 2, 12, 15, 24
  - Pg. 57-59 Basic Skills and Concepts # 1, 7, 11, 16, 18, 27
  - Groups need a topic for their project

9/16 **Objectives** Review and Test

- Topics
  - Review Chapters 1 – 3
  - Test on Chapters 1 - 3

9/23 **Objectives** Sections 4-2, 5-2 to 5-4

- Topics
  - Fundamentals of Probability
  - Random Variables
  - Binomial Probability Distributions
  - Mean, Variance, and Standard Deviation for the Binomial Distribution
- Homework
  - Pg. 147 – 151 Basic Skills and Concepts # 2, 9, 18, 25
  - Pg. 214 – 218 Basic Skills and Concepts # 2, 6
  - Pg. 225 – 228 Basic Skills and Concepts # 36, 40
  - Pg. 231 – 234 Basic Skills and Concepts # 5, 12

9/30 **Objectives** Section 6-1 to 6-3 and 6-5

- Topics
  - The Standard Normal Distribution
  - Applications of Normal Distributions
  - The Central Limit Theorem
- Homework
  - Pg. 261 – 264 Basic Skills and Concepts # 10, 14, 30, 52
  - Pg. 271 – 275 Basic Skills and Concepts # 2, 14, 30
  - Pg. 295 – 298 Basic Skills and Concepts # 16, 19

10/7 **Objectives** Section 7-1 to 7-4

- Topics
  - Estimating a Population Proportion
  - Estimating a Population Mean: σ Known
  - Estimating a Population Mean: σ Not Known
- Homework
  - Pg. 339 – 344 Basic Skills and Concepts # 1, 2, 36
  - Pg. 351 – 355 Basic Skills and Concepts # 14, 22, 28, 34
  - Pg. 365 – 369 Basic Skills and Concepts # 20, 23, 28

10/14 **Objectives** Review and Test

- Topics
  - Review Chapters 6 and 7
  - Test on Chapters 6 and 7

10/21 **Objectives** Sections 8-1 to 8-3

- Topics
  - Basics of Hypothesis Testing
  - Testing a Claim about a Proportion
- Homework
  - Pg. 409 – 411 Basic Skills and Concepts # 1, 2, 3, 4, 28
  - Pg. 420 – 424 Basic Skills and Concepts # 12, 15, 17, 28, 29

10/28 **Objectives** Sections 8-4 and 8-5

- Topics
  - Testing a Claim about a Mean: σ Known
  - Testing a Claim about a Mean: σ Not Known
- Homework
  - Pg. 429 – 432 Basic Skills and Concepts # 4, 6, 12, 16, 20
  - Pg. 439 – 443 Basic Skills and Concepts # 4, 19, 23, 26, 28

11/4 **Objectives** Section 10-1 to 10-3

- Topics
  - Correlation
  - Regression
- Homework
  - Pg. 530 – 535 Basic Skills and Concepts # 11, 18, 20, 25, 26
  - Pg. 547 – 551 Basic Skills and Concepts # 2, 6, 12, 24, 28

11/18 **Objectives** Review and Test

- Topics
  - Review Chapters 8 and 10
  - Test on Chapters 8 and 10

12/2 **Objectives** Project Presentations

12/9 **Objectives** Project Presentations

12/16 **Objectives** Make-up if necessary

Rubric for the Group Project				
	4	**3**	**2**	**1**
Question	Question is interesting, clearly stated, and related to the topic.	Question is clearly stated and related to the topic.	Question is clearly stated.	Question is not clearly stated.
Research Design	Collection process is appropriate and very clearly explained. Data answers the question.	Collection process is appropriate and clearly explained. Data answers the question.	Collection process is explained.	Evidence of data collection.
Graphs	Appropriate for the question and data. Lead to valid conclusions. Correct, neatly constructed, and understood very well. Original data included.	More appropriate graphs would improve presentation. Neat, but may contain minor errors in one graph. Understood reasonably well. Original data included.	Graphs are present but are inappropriate or poorly prepared. Weak understanding of graphs. Original data included.	Graphs are missing. Original data missing.
Analysis and Conclusions	Analysis of data is strong, thorough, and appropriate. Analysis justifies and supports conclusions.	Analysis of data is good and reasonably complete. Conclusions are consistent with the analysis.	Analysis is rudimentary. Conclusions are present but not well supported by the analysis.	Analysis is inappropriate or missing. Conclusions invalid or missing.
Reflection on Process	Very clear, holistic picture of the project. Includes suggestions for how the project could be improved as well as ideas for further study. Demonstrates critical thinking.	A good overall picture of the project. Includes things that went well and things that were unexpected. Shows evidence of critical thinking.	Reflective thinking focuses only on one aspects of the project, such as what went well.	No evidence of critical thinking.
Presentation	Attractive and well-organized. Very neatly prepared project and report. Care in project presentation is clearly evident. Very, very few *minor* errors in writing conventions.	Organized and neatly prepared project report. Care in project presentation is apparent. Few errors in writing conventions.	Organization is evident but not fully developed. Reasonably neat. Many errors in writing conventions.	No organization. Sloppy. Many errors in writing conventions.