Statistics II (STAT-02261), Fall 2019
Rowan University Department of Mathematics

Section	Meeting Days/Times	Location		CRN
1	WF 11:00am-12:15pm	Wed: Bunce 156	Fri: James 2113	42987
3	WF 12:30pm-1:45pm	Wed: Bunce 156	Fri: James 2113	42989

Instructor: Catharine Dickerson
E-mail (response within 24 hours): dickerson@rowan.edu
Office Hours: Walk-ins encouraged during the following days/times: Tues 11:00am-1:45pm, Wed 2:00pm-3:45pm, Thurs 11:45am-2:30pm. E-mail me for an appointment if you are unable to attend during walk-in hours.
Office Location: 229B Robinson Hall. Enter the Math Department reception area and use the inner hallway to the left. Follow the hallway nearly to its end; my door is on the left.
Prerequisite: C- or better in Statistics I (STAT-02261)

Course Description: This course is a continuation of Statistics I. Confidence intervals and hypothesis testing are studied in more detail, beginning with two sample inference for means and proportions. The inferences in simple linear regression and multiple regression are presented. Analysis of variance is introduced. Other topics include chi-square tests for goodness-of-fit and independence, and the nonparametric tests.

Required Textbook and Course Materials:

- Textbook: Business Statistics for Contemporary Decision Making, 9th edition (Black/Wiley). The custom edition at the campus bookstore is priced at a reasonably affordable $77.15, but the standard 9th edition or an electronic copy would also be fine. No electronic access code is required.
- Texas Instruments TI-83, TI-84, TI-89, or TI-Nspire graphing calculator. Plus, Silver, or Titanium editions are fine. This course will be taught without traditional statistics tables, so it is critical that you have a TI graphing calculator.
- JMP Pro 14 statistical software. JMP is available as a free download to Rowan students here: https://irt.rowan.edu/services/software/index.html#jmp JMP is also accessible through the Citrix and is installed on machines in the Mimosa Hall computer lab (open 24 hours a day with ID card access).

Blackboard: You can obtain handouts, lecture slides, study guides, answer keys, grades, etc. from the Blackboard site for this course. Go to https://rowan.blackboard.com and log on with your Rowan e-mail username and password. Any updates to the class schedule or homework assignments will be announced on Blackboard, but you should also check your Rowan e-mail account daily for any announcements regarding this course.

Course Assignments and Requirements:

A. Homework Assignments. Homework problems are assigned most weeks and a hard copy is due at the beginning of class on the due date. You may submit your homework by e-mail up to twice during the semester without penalty (e-mail pictures or scans; try to reserve this option for days you are absent from class). **No late homework will be accepted but the lowest two homework grades will be dropped**. Your homework grade will be based on your sincere effort to complete each problem. Keep in mind that Prof. Dickerson has office hours on Tuesdays, Wednesdays, and Thursdays if you find yourself stuck on a problem. She can also provide assistance by e-mail. Homework answer keys will be posted on Blackboard and it is your responsibility to check your answers. If you cannot figure out how you reached an incorrect answer, check with your classmates, send Prof. Dickerson an e-mail, or see Prof. Dickerson during office hours. In-class assignments on review days will count toward your homework grade.

B. Quizzes. A short quiz will be given at approximately the halfway point before each exam. The quizzes are intended to help you (and Prof. Dickerson) gauge your progress with plenty of time to course-correct well in advance of the exams. Your lowest of the three quiz grades will be dropped; however, if you are absent on a quiz day you will receive a zero and there is no opportunity to make up the quiz (it will be your dropped quiz). You are permitted (and expected) to use your graphing calculator and a single-sided 4x6" notecard of notes on each quiz.

C. Exams. There will be two exams during the semester (Exam 1 on October 9, Exam 2 on November 6). During the two-hour final exam period, there will one hour provided for Exam 3 (covering material from the last third of the semester) and one hour provided for a "replacement exam." For the replacement exam you will select whether you want to try improving upon your Exam 1 or Exam 2 score. The replacement exam will cover the same topics as the exam you want to replace (important: the questions will NOT be identical to the original midterms!). You are permitted (and expected) to use your graphing calculator and one single-sided page of notes during each exam. Still reading this syllabus carefully? Good, then you'll know the magic word is: kittens. Give yourself a pat on the back.

D. Poster Project. You will be working in groups of 2-3 to analyze real estate trends using the techniques covered in class and to present your results in poster format. Assignment details will be provided in class.

E. Attendance and Participation. According to the University's Attendance Policy, "Students are expected to be present at each meeting of each scheduled class for which they are officially registered." You are always responsible for what occurs in each class that you miss. Attendance will be recorded, and excessive absences and/or tardiness will negatively impact your grade. Class is designed to supplement the textbook material, not to duplicate it. If you must miss a class, arrange to obtain notes from a classmate and go to Blackboard to view the lesson slides and obtain any handouts. Participation in class discussion and activities also will be factored into borderline course grades. Don't hesitate to raise your hand if you have a question during class. Note: I do have back-to-back sections of the same course and am willing to allow you to attend the opposite section occasionally if you have a conflict that is known in advance. Seating is limited, however, so this invitation is by appointment only.

Grading Scheme:

Homework 15%
Quizzes 10%
Exams 1 and 2: 20% each (with opportunity to replace one)
Exam 3: 20% (during finals week; no replacement possible)
Poster project 12%
Participation/Attendance 3%

Grading Scale: After your scores on individual grade components are weighted according to the above percentages, your final course grade will be determined as follows:

$93 \leq$ A	$80 \leq$ B- < 83	$67 \leq$ D+ < 70
$90 \leq$ A- < 93	$77 \leq$ C+ < 80	$63 \leq$ D < 67
$87 \leq$ B+ < 90	$73 \leq$ C < 77	$60 \leq$ D- < 63
$83 \leq$ B < 87	$70 \leq$ C- < 73	F < 60

Academic Integrity: Please familiarize yourself with Rowan's Academic Integrity Policy: https://confluence.rowan.edu/display/POLICY/Academic+Integrity+Policy Cheating on quizzes or exams (such as but not limited to copying others' work, communicating with others during the exam, or using unauthorized materials) will be reported to the Provost's office in accordance with university policy and likely result in a course grade of "F." You are welcome to collaborate with other students on homework as long as your answers are written in your own words.

Classroom etiquette and technology policy: All students in this class deserve a distraction-free learning environment. Refrain from side conversations while I am actively lecturing; if you have an on-topic question then please raise your hand so the whole class can benefit from hearing the answer. On-topic discussion with your classmates during group problem-solving time is encouraged.

Phones should be on silent during class (phones on vibrate in backpacks can still be distracting to me and to your classmates). If you are expecting an urgent call/text, put your phone in your pocket on vibrate and quietly excuse yourself from the room to deal with the matter. You should not be using your phone, using your computer for non-class activities, or sleeping in class since these behaviors are distracting to students around you.

Students partaking in disruptive behavior will be warned. If the disruption persists, students may be asked to leave class in accordance with the University Classroom Behavior Policy:
https://confluence.rowan.edu/display/POLICY/Classroom+Behavior

Tutoring: Free tutoring is available through the Tutoring Center (x4460, Savitz Hall) or in the Mathematics Learning Center. Check out these options as soon as possible, and contact Prof. Dickerson right away if these options are not meeting your needs!

Starfish: The Rowan Success Network powered by Starfish® is designed to make it easier for you to connect with the resources you need to be successful at Rowan. Throughout the term, you may receive email from the Rowan Success Network team (Starfish®) regarding your academic performance. Please pay attention to these emails and consider taking the recommended actions. Additional information about RSN may be found at www.rowan.edu/rsn.

Students with Disabilities: Your academic success is important. If you have a documented disability that may have an impact upon your work in this class, please contact your instructor. Students must provide documentation of their disability to the Academic Success Center in order to receive official University services and accommodations. The Center is located on the 3rd floor of Savitz Hall. The staff is available to answer questions regarding accommodations or assist you in your pursuit of accommodations. Their website is https://sites.rowan.edu/disabilityresources/index.html

Tentative Schedule. Deviations from the schedule below will be announced in class and posted on Blackboard.

Date	Day	Topic	Reading
Sept. 4	W	Introduction, pre-test, review one-sample test for proportion	9.4
Sept. 6	F	Intro to JMP, review one-sample t-test	9.3
Sept. 11	W	Paired t-test, paired confidence interval	10.3
Sept. 13	F	Assessing normality: normal quantile plots and Shapiro-Wilk test	
Sept. 18	W	**Quiz 1**. Signed rank test	17.3
Sept. 20	F	Test and CI comparing two independent samples	10.2
Sept. 25	W	Mann-Whitney U test	17.2
Sept. 27	F	CI for difference in two proportions	10.4
Oct. 2	W	In-class assignment and review	
Oct. 4	F	**Exam 1**	
Oct. 9	W	One-way ANOVA: F test	11.1
Oct. 11	F	One-way ANOVA: assumptions and multiple comparisons	11.2
Oct. 16	W	Chi-square test for goodness of fit	16.1
Oct. 18	F	Chi-square test for independence	16.2
Oct. 23	W	Correlation, Descriptive Simple Linear Regression	12.1-12.3
Oct. 25	F	**Quiz 2**. Measuring fit	12.5, 12.6
Oct. 30	W	SLR model and assumptions	12.4
Nov. 1	F	SLR inference and estimation	12.7, 12.8
Nov. 6	W	In-class assignment and review	
Nov. 8	F	**Exam 2**	
Nov. 13	W	Multiple regression model	13.1, 13.3
Nov. 15	F	Multiple regression: Global and partial F tests	13.2, 13.4
Nov. 20	W	Polynomial regression	14.1
Nov. 22	F	**Quiz 3.** Multiple regression: interaction	14.1
Nov. 27	W	Multiple regression: indicator variables	14.2
Nov. 29	F	*No class: Thanksgiving break*	
Dec. 4	W	Multiple regression: model building, multicollinearity	14.3, 14.4
Dec. 6	F	In-class assignment and review	
Finals week	TBA	**Exam 3 and (optional) Replacement Exam**	