

20:203 STATISTICAL METHODS Spring 2022 Prof. James VanderHoff

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OFFICE HOURS: Monday, 1:30 - 2:25 and by appointment

Course Objective: This course provides students with the knowledge of statistical methods required to understand statistical studies and to complete advanced courses. The statistical analysis of data will utilize MICROSOFT EXCEL. The student who successfully completes this course will be able to interpret summary statistics, evaluate tests of parameter values and analyze estimates of multivariate regression models.

Required Texts: *Introductory Business Statistic [IBS]*, *OPENSTAX*  
[<https://openstax.org/details/books/introductory-business-statistics>]

*STATISTICS USING EXCEL SUCCINCTLY*, [SUE] Charles Zaiontz  
[[www.syncfusion.com](http://www.syncfusion.com).]

Responsibilities: The students are responsible for determining the grade they wish to earn and completing the necessary work. The professor is responsible for discussing the basic concepts, making and grading exams and computing grades. **The professor is not responsible for students' grade choices.**

Grading: The number of points earned on in class exams and out of class assignments will determine the final grade. A student who accumulates at least 90% of the possible points will earn an A; 89-80% of the points will earn a B; 79-70% of the points will earn a C and 69-60% of the points will earn a D. These percentages may be adjusted downward according to the class distribution of points. The exams will contain problems similar to those in the textbook and discussed in class. A student is allowed to use the textbook and notes on the exam. Exams are an individual effort: cheating will not be tolerated and may result in a disciplinary failure in the course (see Policy on Academic Integrity in the Student Handbook). Make-up exams will only be given to students with absences approved by the professor and will be scheduled at the end of the semester. **Points will be deducted for disruptive behavior. A student will earn an "F" if unable to calculate the mean and standard deviation on test 4.**

Prerequisites: All students must have successfully completed college algebra or placed out of it prior to taking this course.

On Line Support: On CANVAS, I will list grades, sample of exams given in previous semesters, class cancellations due to weather or illness and other class changes. Students are encouraged to send questions to me via e-mail at [jhv@andromeda.rutgers.edu](mailto:jhv@andromeda.rutgers.edu)

**Tutoring: The Learning Resource Center [located at Bradley Hall; telephone 353-5608] provides free tutoring for statistics and other subjects.**

COURSE OUTLINE AND PREDICTED TIMELINE

| <b>WEEK STARTING</b> | Topic                                                    | IBS Chapter | SUE Chapter | problems                          |
|----------------------|----------------------------------------------------------|-------------|-------------|-----------------------------------|
| 17-Jan               | <b>Introduction</b>                                      | 1,2         | 1           |                                   |
| 24-Jan               | <b>Summarizing Data</b>                                  | 3,4         | 2, 3        | summary stats                     |
| 31-Jan               | <b>Probabilities</b>                                     | 5,6         |             |                                   |
| 7-Feb                | <b>Expectations;</b>                                     | 6           |             |                                   |
| 14-Feb               | <b>probability distributions</b>                         | 8           | 6           | birthday problem                  |
| 21-Feb               | <b>probability distributions; Sampling distributions</b> | 9, 10       | 5           | confidence interval estimate mean |
| 28-Feb               | <b>Estimation</b>                                        | 11          |             |                                   |
| 7-Mar                | <b>Hypothesis Testing</b>                                | 12          | 7           | test 1 mean                       |
|                      | <b>SPRING BREAK</b>                                      |             |             |                                   |
| 21-Mar               | <b>Hypothesis Testing</b>                                | 12, 13      |             | test 2 means                      |
| 28-Mar               | <b>Hypothesis Testing</b>                                | 14          | 8           | test 4 means                      |
| 4-Apr                | <b>Hypothesis Testing</b>                                | 15          | 9           |                                   |
| 11-Apr               | <b>Correlation;</b>                                      | 16,17       | 10          | correlation                       |
| 18-Apr               | <b>Regression</b>                                        | 16,17       | 11          | simple regression                 |
| 25-Apr               | <b>Regression; Multiple Regression</b>                   | 16          | 11          | multiple regression               |
| 2-May                | <b>Multiple Regression, review</b>                       |             |             |                                   |
| 11-May               | <b>final exam: 11:45 am</b>                              |             |             |                                   |