Course Syllabus
Fundamentals of Statistics (3 Semester Hours)
Spring 2017

Instructor: Dr. John L. Cuzzocrea
E-Mail: jcuzzocrea@wayne.edu

Office Hours: By appointment

Class Schedule:
Mondays and Wednesdays 5:30pm-8:00pm Room: State Hall 410

Textbook:

COURSE DESCRIPTION:
COURSE OBJECTIVES:
The student will:
1. Recognize the distinction between statistics and parameters.
2. Identify the differences between inferential and descriptive statistics.
3. Differentiate among the scales of measurement.
4. Recognize and use summation notation.
5. Recognize and use the general rules for constructing frequency distributions.
6. Classify and use measures of central tendency.
7. Classify and use measures of variability.
8. Classify and use measures of relationship
9. Recognize and use the concept of skewness.
10. Recognize and use the concept of kurtosis.
11. Recognize and use the standard normal distribution.
12. Recognize and use the concept of the area under a normal curve.
13. Recognize and use simple linear regression.
14. Recognize and use the simple laws of probability.
15. Identify and use the standard error of a statistic.
16. Recognize and use the concept of a sampling distribution of a statistic.
17. Formulate and use null hypotheses.
18. Formulate and use alternative hypotheses.
19. Recognize and use the concept of degrees of freedom.
20. Identify Type I and Type II errors.
21. Select and use appropriate alpha levels.
22. Differentiate between and use appropriately one and two tailed tests.
23. Recognize and use inferential tests for a single group.
24. Recognize and use inferential tests for two groups.
25. Recognize and use inferential tests for correlated groups.
26. Recognize and use the application of one and two-way analysis of variance.
27. Recognize the concept of power.
28. Recognize and use the one variable chi-square test.
29 Recognize and use the two-variable chi-square test.
30. Recognize and use the binomial test.
31. Recognize and use non-parametric statistical tests with ordinal variables.
The student will calculate:
1. The limits of an interval.
2. The midpoint of an interval.
3. True class limits.
4. The size of the class interval.
5. Sums involving summation notation.
7. Medians.
8. Modes.
9. Ranges.
11. Variances.
13. Proportions and percentages.
15. Areas under a curve.
20. The slope of a line.
21. The intercept of a line.
22. Values of tests for single groups.
23. Values of tests for two groups.
24. Values of tests for correlated groups.
25. Degrees of freedom.
27. Chi square test of independence.
29. One and two-way ANOVAs.
30. Power.
31. Effect Size.
GRADE DISTRIBUTION:

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<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>A-</td>
<td>88-89.9%</td>
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<td>B+</td>
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<td>B-</td>
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<td>C+</td>
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<td>C</td>
<td>70-74.9%</td>
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CLASS POLICIES:

- Attendance is not required, but it is to your advantage to attend class as the lecture material and the text do not necessarily overlap. I do lecture on material not covered in the text.
- You may not record the lectures.
- Incomplete grades are given only with a doctor’s note for not being able to complete the course during the term. You must be passing the course at the time to receive an incomplete.
- Make-up examinations will only be given for illnesses accompanied by a doctor’s note; deaths in the family, also supported by documentation and/or other catastrophes. An exam conflicting with your vacation is not a sufficient excuse for missing that exam.
- Please turn off your cell phones in class. Do not text, use Skype, Facebook, etc. during class.

ACADEMIC DISHONESTY:

No form of academic dishonesty will be tolerated. You are in this class to learn, and you must commit the effort to obtaining your own knowledge and skills. You should already be aware, but for specific examples of academic dishonesty, including what constitutes plagiarism, you should read the Undergraduate and Undergraduate Bulletins found at

http://www.bulletins.wayne.edu/

The Student Due Process Policy at

http://students.slis.wayne.edu/policies/index.php

and any other formal documents that are created for students at WSU found through

www.wayne.edu.
WSU PLAGIARISM POLICY:
Plagiarism includes copying material (more than 5 consecutive words) from outside texts or presenting outside information as if it were your own or by not crediting authors through citations. (APA cites require author, year, and page number for direct quotes in quotation marks and for paraphrases with no quotation marks.) It can be deliberate or unintended. If in doubt about the use of a source, cite it. University policy states that students can be subject to multiple sanctions, from reprimand to expulsion as a consequence of academic dishonesty. Students caught plagiarizing information from other sources will receive a failing grade in the course. To enforce this policy, all outside references must be submitted with assignments.

RELIGIOUS OBSERVANCE POLICY:
Because of the extraordinary variety of religious affiliations represented in the University student body and staff, the Wayne State University calendar makes no provisions for religious holidays. It is University policy, however, to respect the faith and religious obligations of the individual students who find that their classes or examinations involve conflicts with their religious observances. They are expected to notify their instructors well in advance so that alternative arrangements may be worked out.

STUDENT DISABILITY SERVICES:
If you have a documented disability that requires accommodations, you will need to register with Student Disability Services (SDS) for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TDD only). Student Disability Services’ mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University.

WITHDRAWAL POLICY:
Students who withdraw from a course after the end of the 4th week of class will receive a grade of WP, WF, or WN.

- WP will be awarded if the student is passing the course (based on work due to date) at the time the withdrawal is requested
- WF will be awarded if the student is failing the course (based on work due to date) at the time the withdrawal is requested
- WN will be awarded if no materials have been submitted, and so there is no basis for a grade

Students must submit their withdrawal request on-line through Pipeline. The faculty member must approve the withdrawal request before it becomes final, and students should continue to attend class until they receive notification via email that withdrawal has been approved. Withdrawals can be requested at any point from the fifth week of class through the end of the 10th week of classes.
The medical withdrawal process can be initiated for up to three months following the end of a term, and is not impacted by this change in withdrawal deadline. Exceptions for other reasons would be considered only when circumstances beyond a student’s control affect ability to complete course requirements, and occur after the end of the withdrawal period and prior to the beginning of the final examination period. In no case, will a late withdrawal be approved after a student has taken the final exam, or received a final grade in the class. The appropriate remedy for a poor grade is normally to repeat the course. If questions exist about exceptions for course withdrawal after the deadline, please consult with the Office of the Registrar prior to advising a student to seek an exception.
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<tr>
<th>DATE</th>
<th>CHAPTER</th>
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<tbody>
<tr>
<td>05/08/2017</td>
<td>Chapter 1</td>
<td>Introduction to Statistics</td>
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<tr>
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<td>Chapter 2</td>
<td>Scales of numbers, Frequency Distributions, Graphing, Percentiles</td>
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<td>Measures of Central Tendency. Dispersion. The Normal Distribution. Z Scores</td>
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<td>Chapters 17-18</td>
<td>The Binomial Test and Chi Square.</td>
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