![North Central State College logo]

North Central State College
MASTER SYLLABUS
2019-2020

A.   Academic Division: Liberal Arts

B.   Discipline: Statistics

C.   Course Number and Title: STAT1030 Statistical Analysis

D.   Course Coordinator: Sara Rollo
                Assistant Dean: Dr. Steve Haynes

       Instructor Information:
       - Name: Click here to enter text.
       - Office Location: Click here to enter text.
       - Office Hours: Click here to enter text.
       - Phone Number: Click here to enter text.
       - E-Mail Address   Click here to enter text.

E.   Credit Hours: 3

F.   Prerequisites: STAT1010 (Minimum grade of C- required)

G.   Syllabus Effective Date: Fall, 2019

H.   Textbook(s) Title:

       Statistics Informed Decisions Using Data
       - Author: Michael Sullivan, III
       - Copyright Year: 2016
       - Edition: 5th
       - ISBN: 9780134135373

I.   Workbook(s) and/or Lab Manual: TI-83 or TI-84 required

J.   Course Description: Students in this course learn analysis techniques including, hypothesis testing and confidence intervals for standard deviations for one and two populations, contingency tables (chi-squared), analysis of variance (ANOVA), least squares method, multiple regression models, and non-parametric hypothesis tests. Students will design, develop, and present a statistical analysis project.

K.   College-Wide Learning Outcomes:

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L.   Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Construct confidence intervals and test hypotheses for standard deviations.	HW, Tests, final exam Weeks 1,2,4 and 16
2. Analyze statistical situations to ascertain what type of answer is appropriate and which formulas/variables should be used.	HW, Tests, final exam Weeks 4 and 16
3. Construct confidence intervals and test hypotheses for means and proportions where there are two populations.	HW, Tests, final exam Weeks 5,6,7,8,12 and 16
4. Conduct a goodness of fit test using the chi-square distribution.	HW, Tests, final exam Weeks 9, 12 and 16
5. Analyze the relationship of three or more populations means using analysis of variance techniques (ANOVA), i.e. the F-test.	HW, Tests, final exam Weeks 10,12 and 16
6. Design and conduct post-hoc ANOVA tests using Tukey's test.	HW, Tests, final exam Weeks 11,12 and 16
7. Conduct a two-way ANOVA.	HW, Tests, final exam Weeks 12 and 16
8. Make inferences using the least squares method.	HW, Tests, final exam Weeks 13 and 16
9. Create multiple regression models.	HW, Tests, final exam Weeks 14 and 16
10. Test hypotheses using appropriate non-parametric tests.	HW, Tests, final exam Weeks 15 and 16
11. Design and complete a statistical analysis project by utilizing a data file or using survey data, describing the data both numerically and visually, analyzing the data, and drawing appropriate conclusions.	Oral presentation and Written project Weeks 12-16

M.   Topical Timeline (Subject to Change):

Week 1	Confidence intervals for standard deviations
Weeks 2-3	Hypothesis tests concerning standard deviations.
Week 4	Statistical analysis techniques.
Week 5	Confidence intervals for means and proportions where there are two populations.
Weeks 6-8	Hypothesis tests for means and proportions where there are two populations.
Week 9	Goodness of fit test using the chi-square distribution.
Week 10	Analysis of the relationship of three or more populations means using analysis of variance techniques (ANOVA), i.e. the F-test.
Week 11	Post-hoc ANOVA tests using Tukey's test.
Week 12	Two-way ANOVA.
Week 13	The least squares method.
Week 14	Multiple regression models.
Week 15-16	Hypothesis tests using appropriate non-parametric tests.
Week 15-16	Guidelines to design and complete a statistical analysis project.

N.   Course Assignments:

1. HW from text and handouts
2. Quizzes

3. Tests
4. Statistical project (VALUE rubric, Information Literacy)
5. Comprehensive final exam

O.   Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

P.   Grading and Testing Guidelines:

Tests   40%
Homework / Quizzes   20%
Project   20%
Comprehensive Departmental Final Exam   20%

Q.   Examination Policy:

Click here to enter text.

R.   Class Attendance and Homework Make-Up Policy:

Click here to enter text.

S.   Classroom Expectations:

Click here to enter text.

T.   College Procedures/Policies:

Important information regarding College Procedures and Policies can be found on the syllabus supplement **located at https://sharept.ncstatecollege.edu/committees/1/curriculum/SiteAssets/SitePages/Home/SYLLABUS %20SUPPLEMENT.pdf**

The information can also be found Choose an item.