North Iowa Area Community College
Course Outline

Please follow the included instructions when completing this form. Direct questions to Division Chair. After Course Outline is completed, please submit to Division Chair for review, who then submits to Administrative Assistant to the Vice President for Academic Affairs for review by the Curriculum and Academic Affairs Council (CAAC).

Prepared by:	Kathy Rogotzke
Date Approved by CAAC:	September 9, 2019
Course Title:	Introduction to Statistics
Course Number:	MAT-156
Equivalent Prior Course Numbers:	40-140; STAT-104
Academic Division/Department:	Mathematics

Credits – Semester Hours (s.h.): 3

Contact Hours As defined by the Iowa Department of Education in consultation with Division Chair/Registrar (see attached instructions).

Lecture:	45	1 s.h. = 15 contact hours
Lab:	0	1 s.h. = 30 contact hours
Clinical Practice:	0	1 s.h. = 45 contact hours
Work Experience:	0	1 s.h. = 60, 75, 90, or 105 contact hours
Total:	**45**	

Prerequisite(s):

MAT-092 Intermediate Algebra with a grade of C or higher, or an ALEKS score of at least 38

Corequisite(s):

None

Course Description:

This course is intended to introduce students to basic statistical concepts. It covers descriptive and inferential statistical methods, probability, hypothesis testing on the mean and proportion, and linear regression. Students are also introduced to technology as it applies to introductory statistical methods. A graphing calculator is required.

Required Textbook(s) and Other Required Materials:

Elementary Statistics by Neil Weiss, 8th edition, Addison Wesley 2012.

Purpose of Course Check one [X] in consultation with Division Chair.

X	Arts and Sciences (General Education)
	Arts and Sciences
	Career and Technical (General Education)
	Career and Technical
	Developmental

If course is offered <u>only</u> in specific semesters, please explain below:

Form Last Updated: 09/18/2018

Maximum number of weeks for which the course is offered:

16

[Do not edit the following section. Managed by Academic Affairs]

Is this a Core Competency Anchor Course? YES ☐ NO ☐

If "Yes," list Core Competency Student Learning Outcome Numbers being taught and assessed in this course (2.2, 3.1, etc.)

(Example) 2.2 [Press Tab to create new rows for each SLO]

Student Learning Outcomes (SLOs):

Upon successful completion of the course, a student will be able to:

1. Give definitions of basic statistical terminology.
2. Organize and summarize data using tables and graphs.
3. Compute numerical quantities that measure center, spread, and position.
4. Recognize and describe a linear patterned scatterplot.
5. Interpret the magnitude and direction of a linear correlation coefficient.
6. Give the equation of the least squares regression line and use it to make predictions.
7. Use the rules of probability that apply to simple and compound events.
8. Recognize the shape of normal curves and be able to calculate proportions from such curves.
9. Understand what a sample distribution is and use it to find probabilities.
10. Find the mean and standard deviation of sampling distributions.
11. State in nontechnical language the meaning of a confidence interval and the margin of error.
12. Calculate a confidence interval for the proportion of a population, the mean of a population, matched paired data, the difference between two means, and the difference between two proportions.
13. Conduct a test of significance for the proportion of a population, the mean of a population, matched paired data, the difference between two means, and the difference between two proportions.
14. Calculate the required sample size for a confidence interval of the population mean or population proportion.