North Central State College

MASTER SYLLABUS	2025-2026

A. Academic Division: Liberal Arts

B. Discipline: Statistics

C. Course Number and Title: STAT 0086 Algebra for Probability and Statistics

D. Assistant Dean: Laura Irmer

E. Credit Hours: 2

F. Prerequisites: MATH 0072 or MATH 0073 with a minimum of C- grade
-OR-
COMPASS Algebra score of 1-30
-OR-
ACT Math score of 19 or higher
-OR- ACCUPLACER Elementary Algebra score of 45 or higher

Co-requisite: STAT 1010

G. Syllabus Effective Date: Fall 2023

H. Textbook(s) Title: No Textbook Required; Instructor handouts will be provided.

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

J. Course Description: This course is designed to teach students the algebraic methods and procedures that will be needed in a probability and statistics course. The topics will include demonstrations in using the calculator, scientific notation, order of operations, converting decimals to percents, inequalities, and exponents, radicals, solving equations, graphing lines using slope and y-intercept, solving equations using the quadratic formula, sequences and variation.

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. Convert decimal numbers to scientific notation and vice versa.	In-class assignments and/or homework throughout the semester.
2. Apply the knowledge of order of operations when simplifying algebraic expressions and solving equations.	In-class assignments and/or homework throughout the semester.
3. Change algebraic expressions using properties of exponents.	In-class assignments and/or homework throughout the semester.
4. Demonstrate the knowledge of inequality symbols while solving inequalities.	In-class assignments and/or homework throughout the semester.
5. Convert decimal numbers to a percent and vice versa.	In-class assignments and/or homework mid to end of the semester.
6. Label the slope and y-intercept on a graph and draw the line.	In-class assignments and/or homework mid to end of the semester.
7. Compute the solutions of a quadratic equation using both the quadratic formula and factoring.	In-class assignments and/or homework end of the semester.
8. Determine the general term of both arithmetic and geometric sequences.	In-class assignments and/or homework end of the semester.
9. Generate an equation or formula using both direct and inverse variation when given specific pieces of data.	In-class assignments and/or homework end of the semester.

M. Recommended Grading Scale:

Course will be evaluated as Pass/Fail based on attendance and participation. Participation includes, but is not limited to, completing in-class work and outside homework assignments.

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences. Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at
https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf

North Central State College

SYLLABUS ADDENDUM

Academic Division:	Liberal Arts	**Discipline:**	Mathematics
Course Coordinator:	Sara K. Rollo		
Course Number:	STAT 0086-920	**Course Title:**	Algebra for Probability and Statistics
Semester / Session:	Fall 2025	**Start / End Date:**	August 11 – October 3

Instructor Information

Name:	Sara K Rollo	**Phone Number:**	419.755.4833
		E-Mail Address:	srollo@ncstatecollege.edu
Office Location:	Zoom	**Office Hours:**	Friday 7 am – 9 am

I. Topical Timeline (Subject to Change):

STAT 0086	Day 1 - Tuesday	Day 2 -Friday
1 **NOTE – assignments will be due via Canvas on Tuesdays and Fridays** August 11 – August 17	**Class activity:** Lesson 1 Lecture **Outcomes/objectives:** Learn how to use the graphing calculator	**Class activity:** Lesson 2 Lecture **Outcomes/objectives:** Convert decimal numbers to scientific notation and vice versa and perform unit conversion
2 August 18 – August 24	**Class activity:** Finish Lesson 2 Lecture and start Lesson 3 Lecture **Outcomes/objectives:** Apply the knowledge of order of operations when simplifying algebraic expressions **Complete Assignment:** Lesson 2 notes due	**Class activity:** Finish Lesson 3 Lecture **Complete Assignments:** Lesson 2 HW due Lesson 3 notes due
3 August 25 – August 31	**Class activity:** Lesson 4 Lecture **Complete Assignments:** Lesson 3 HW due Lesson 4 notes due **Outcomes/objectives:** Demonstrate the knowledge of inequality symbols	**Class activity:** Lesson 5 Lecture **Complete Assignment:** Lesson 4 HW due **Outcomes/objectives:** Solve equations, inequalities, and rational expressions
4 September 1 – September 7	**Class activity:** Finish Lesson 5 Lecture **Complete Assignment:** Lesson 5 notes due	**Class activity:** Lesson 6 Lecture **Complete Assignment:** Lesson 5 HW due **Outcomes/objectives:** Label the slope and y-intercept on a graph and draw the line. Determine the slope given two points and from application
5 September 8 – September 14	**Class activity:** Finish Lesson 6 Lecture and Start Lesson 7 Lecture **Outcomes/objectives:** Convert decimal numbers to a percent and vice versa **Complete Assignment:** Lesson 6 notes due	**Class activity:** Finish Lesson 7 Lecture and Start lesson 8 Lecture **Complete Assignments:** Lesson 6 HW due Lesson 7 notes due **Outcomes/objectives:** Change algebraic expressions using properties of exponents

6 September 15 – September 21	**Class activity:** Finish Lesson 8 Lecture **Complete Assignments:** Lesson 7 HW due Lesson 8 notes due	**Class activity:** Lesson 9 Lecture **Complete Assignment:** Lesson 8 HW due **Outcomes/objectives:** Compute the solutions of a quadratic equation using both the quadratic formula and factoring
7 September 22 – September 28	**Class activity:** Finish Lesson 9 Lecture **Complete Assignment:** Lesson 9 notes due	**Class activity:** Lesson 10 Lecture **Complete Assignments:** Lesson 9 HW due Lesson 10 notes due **Outcomes/objectives:** Determine the general term of both arithmetic and geometric sequences
8 September 29 – October 3 **NOTE – last day is Friday October 3**	**Class activity:** Lesson 11 Lecture **Complete Assignments:** Lesson 10 HW due Lesson 11 notes due **Outcomes/objectives:** Generate an equation or formula using both direct and inverse variation when given specific pieces of data	**Class activity:** Re-Cap or use as Review Time for STAT 1010 **Complete Assignment:** Lesson 11 HW due

II. Course Assignments:

1. Lesson Notes - via Canvas
2. Attendance – via Canvas
3. Lesson Homework – via Canvas

Assignments and lectures are provided on Canvas. Homework is listed at the bottom of each lesson and must be submitted via Canvas assignment submission by indicated due date. As indicated on Canvas, and you can take a picture and attach to the canvas assignment. If you have questions regarding this, then please reach out!

III. Grading and Testing Guidelines:

Participation (includes the lesson notes and homework): 50% and Attendance: 50%

IV. Examination Policy:

There are no tests in the class

V. Class Attendance and Homework Make-Up Policy:

Homework must be completed and submitted by the indicated due date. Exceptions for late work may be made in rare circumstances only.

VI. Classroom Expectations:

If you are in a section that has a virtual or classroom meeting component, then please watch the lectures before class and come prepared to ask questions regarding the content. For example, asking me to show examples again, additional examples from the lesson that are not on the video, and/or work through particularly challenging homework problems.