

COURSE OUTLINE

Mathematics 331 Skills for College Success in Intermediate Algebra for Statistics

Catalog Statement

MATH 331 is designed to complement MATH 131 with the development and practice of essential study techniques and course material for success in intermediate algebra and statistics. Topics include integration of web-based supplemental instruction, life management skills, strategies for successful classroom experiences, and critical thinking/problem solving strategies.

Total Lecture Units: 1.5

Total Laboratory Units: 0.5

Total Course Units: 2.0

Total Lecture Hours: 24.0

Total Laboratory Hours: 24.0

Total Laboratory Hours To Be Arranged: 0.0

Total Faculty Contact Hours: 48.0

Corequisite: MATH 131.

Note: This course is Pass/No Pass only

Course Entry Expectations

Prior to enrolling in the course, the student should be able to:

- add, subtract, multiply and divide real numbers;
- solve linear equations and inequalities;
- solve absolute value equations and inequalities;
- simplify exponential expressions;
- add, subtract, multiply and divide polynomials;
- graph linear equations and inequalities;
- find the equation of the line passing through 2 points;
- solve linear systems using 3 different methods;
- use algebra to solve applied problems;
- use function notation;
- factor polynomials;
- add, subtract, multiply and divide algebraic fractions;
- solve rational equations;
- use algebra to solve applied problems;

- use the properties of radicals to simplify radicals;
- add, subtract, multiply and divide radicals;
- solve radical equations;
- solve quadratic equations by factoring, completing the square, and using the quadratic formula;
- graph quadratic functions and circles;
- use the distance formula to find the distance between two points.

Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

- describe intermediate algebra outcomes and objectives;
- solve algebraic equations;
- use critical thinking skills to better analyze, synthesize, and evaluate ideas and information;
- make use of life-skills that improve the likelihood of success in intermediate algebra;
- apply knowledge of math community resources and college support services;
- apply academic success strategies.

Course Content

Total Faculty Contact Hours = 48.0

Mathematical Content (16 hours)

Operations on real numbers
Solutions of linear equations and inequalities
Graphs of lines, equations of lines, scatterplots, regression lines, histograms, stem plots, box plots, bar Chart, and pie charts.
Exponential and logarithmic functions
Sequences and series
Applications of Exponential and Logarithmic Functions
Basic Set Theory
Probability

Math Study Skills Content (8 hours)

Time management
Motivation for college success in mathematics
Critical thinking skills
Test taking techniques
Goal setting
Transferring / career exploration resources
College support resources
Math community resources

Laboratory Content (24 hours)

Perform data analysis
Graph lines, scatterplots, regression lines, histograms, stem plots, box plots, bar Chart, and pie charts
Calculate mortgage payments and annuities
Utilize statistical software

Apply basic Set Theory
Calculate various probabilities

Methods of Instruction

The following methods of instruction may be used in the course:

- lecture/discussion;
- small group work/discussion;
- online presentation;
- guest speakers;
- computer software and/or graphing calculator demonstrations and activities.

Out of Class Assignments

The following out of class assignments may be used in the course:

- reading and working exercises (e.g. working selected problems from textbook exercise sets;
- projects (e.g.: meeting with a counselor to establish or update a student education plan).

Methods of Evaluation

The following methods of evaluation may be used in the course:

- worksheets reinforcing algebraic and statistical techniques;
- quizzes;
- examinations.

Textbooks

Nolting, Paul., *Math Study Skills Workbook*. 5th ed. Mason: Cengage, 2016.

Print.

10th Grade Textbook Reading Level. ISBN 1-305-12082-5.

Barclay, Judy. *Solving Algebra Word Problems*. Belmont: Brooks/Cole Cengage Learning, 2005.

Print.

10th Grade Reading Level. ISBN 0-534-49573-7.

Student Learning Outcomes

Upon successful completion of the required coursework, the student will be able to:

- work successfully on intermediate algebra level assignments with fellow students both in and out of the classroom;
- incorporate strategic academic and life skills in planning and self-assessment of mathematics success;
- use available campus resources to make educational decisions.