

Lesson Structure

Math 120 Online

Online homework is found in MyOpenMath and is graded electronically. All assignments have due dates but it is a good idea to work ahead. Each online homework and quiz completed 24 hours early will receive 2 extra percentage points. The work must have a score of 100% and the maximum overall percentage of online work will not exceed 105%. Forum assignments are located in the Forum tab on MyOpenMath and are graded. Extra credit will also be given for helping students on the General Forum.

You may repeat online homework as many times as you like and quizzes three times until the deadline. If you procrastinate then you run the risk of not being able to complete the assignment. If you feel that MyOpenMath is not recording your answer correctly post on the forum with an explanation.

Written homework is in the text book and is due on exam days but in order to be successful in this class you must do homework daily. The assignments are on the Unit Checklist. Do not wait until the last minute to do your homework; it does not work. Follow the structure found on the Sample Written Homework document. Plan on spending 20 to 30 hours per week for the summer session and 10 to 15 hours per week for the semester session.

This course consists of 4 units for the Fall and Spring sessions and 2 units for the Summer session:

<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Unit 1: Chapters 1, 2, 3.2	Unit 1: Chapters 1, 2	Unit 1: Chapters 1 – 3
Unit 2: Chapter 3	Unit 2: Chapter 3	Unit 2: Chapters 4 – 5
Unit 3: Chapter 4	Unit 3: Chapter 4	
Unit 4: Chapter 5	Unit 4: Chapter 5	

Typical Unit Tasks

- Download the Unit Checklist to guide you through the tasks for the unit
- Preview my lecture notes found on the MyOpenMath
- Watch the video lesson found on MyOpenMath
- Use the Forum to ask questions and make comments about the material
- Attend the Virtual Classroom sessions
- Do the online homework and use the tutorials if you need help
- Complete the written homework from the text book
- Complete the online quiz
- Read the Exam Review found on the MyOpenMath
- Take the Practice Exam found on MyOpenMath
- Attend the Exam Review session on the Virtual Classroom
- Keep a positive attitude!

Course Content:

Polynomials

- Simplify algebraic expressions with positive or negative exponents, using the product rule, the quotient rule and the power rule of the exponents.
- Translate the standard notation to scientific notation and operate the numbers in that form.
- Define, simplify, add, subtract, multiply, divide polynomials, and determine the degree of a polynomial.
- Solve application problems involving polynomials.

Factoring

- Factor using various methods: greatest common factor, grouping, difference of two squares, perfect square trinomials and trinomials of the form ax^2+bx+c .
- Estimate the solution to any equations using graphing calculators.
- Use the Zero Factor Property to solve an equation.
- Solve application problems.

Rational Expressions

- Define, find the domain and the range, simplify, add, subtract, multiply, divide rational expressions and simplify the complex expressions.
- Solve rational equations algebraically and using graphing calculators.
- Solve related applications such as: ratios and proportions, inverse variations work rate and motion problems.

Radicals

- Define nth root and radical expressions.
- Simplify, add, subtract, multiply, divide radical expressions and expressions with rational exponents.
- Solve radical and rational exponent equations.
- Solve related application problems.

Quadratic Functions

- Define: quadratic, discriminant, parabola, vertex, and axis of symmetry.
- Solve quadratic equations: graphically, by extracting square roots, by factoring, and by using the quadratic formula.
- Rewrite quadratic functions in vertex form and sketch the graph by hand.
- Use discriminant to characterize roots of quadratic equations.
- Solve problems that can be modeled with a quadratic equation.
- Solve quadratic inequalities.
- Model quadratic data with an appropriate formula and solve related applications.

Exponential and Logarithmic Functions

- Define the terms inverse function, exponential function, logarithmic function.
- Determine whether a function has an inverse.
- Functions that have inverses, find the inverse both graphically and analytically.
- Sketch the graphs of exponential and logarithmic functions by hand.
- State and use the properties of exponents and the properties of logarithms.
- Solve exponential and logarithmic equations analytically and graphically.
- Solve problems that can be modeled with an exponential function.
- Model quadratic data with an appropriate formula and solve related applications.