

Course: MATH Foundations of Quantitative Reasoning

Catalog Description: This is a corequisite course for those students who do not meet the prerequisite for MATH 1313. Topics include foundational math topics not already included in MATH 1313. This course can only be taken concurrently with MATH 1313 and cannot be taken alone.

Co-requisite- MATH 1313 Quantitative Reasoning

Credit/Contact/Load Hours:

2 credit hours, 2 contact hours, 2 load hours

Target Audience and Transfer: This is a corequisite course for those students who do not meet the prerequisite for MATH 1313. This course can only be taken concurrently with MATH 1313 and cannot be taken alone. It does not transfer.

Course Outcomes:

Upon successful completion of this course students should exhibit mastery of certain knowledge and basic skills. These skills include, but are not limited to:

1. The student will perform calculations with fractions, decimals, and percents.
2. The student will analyze algebraic expressions with real numbers.
3. The student will solve linear equations using addition and multiplication.
4. The student will read and interpret graphs.
5. The student will use ratios and proportions.
6. The student will analyze exponential expressions and equations.
7. The student will use geometry and measurement to solve problems.

Required Text:

Using and Understanding Mathematics: A Quantitative Reasoning Approach **With Integrated Review** 7th Ed. Bennett and Briggs, Pearson 2019 only available in My Math Lab

REQUIRED CONTENT:

	Integrated Review Topic
IR 1	Pre-algebra
	Multiply & Divide Fractions
	Scientific Notation
	Add & Subtract fractions & Mixed #s, Simplify Fractions
	Multiply & Divide by decimal values to introduce percentages
	Percent conversions
	Multiply & Divide using scientific notation
	Round Decimals
IR 2	Use order of operations for real numbers.
	Real Numbers & Algebraic Expressions
	Compare real numbers
	Evaluate an algebraic expression
	Find the amount, base, or percent in a percent problem by solving an equation
IR 3	Calculate average
	Multiply real numbers
	Linear Equations & Inequalities
	Solve linear equations using addition and multiplication

IR 4	Graphing Linear Equations in 2 variables
	Read and interpret graphs
	Identify & plot points on a coordinate plane
	Decide whether an ordered pair is a solution of a system of linear equations in 2 variables.
	Find the slope of a line.
IR 5	Ratios & Proportions
	Solve proportions
IR 6	Exponential & Logarithmic Functions
	Evaluate an exponential expression.
	Write or evaluate algebraic expressions using exponents.
	Graph exponential functions
	Solve exponential equations.
IR 7	Geometry Review
	Find the perimeter of a polygon or the circumference of a circle.
	Find the area of a polygon or circle.
	Find the volume of geometric solids.
	Find the missing sides of similar triangles.
	Find the unknown side of a right triangle.

Required Instructional Activity: The content of this course will be delivered online and will integrate with the content being delivered in MATH 1313 Quantitative Reasoning.

Required Forms of Assessment:

Each instructor must include a set of 6 departmental final exam questions on his or her final exam. These questions will be in direct support of the specific Course Outcomes and will be based on material covered in the Required Text Coverage section, and be similar to the questions on the Departmental Review Sheet for Quantitative Reasoning. These questions should be evenly weighted on the final and should compose at least 10% of the students' overall grade in the course. The questions will be graded using a departmental grading rubric utilizing a 10-point scale per question. The results of these questions and overall student performance will be reported when final grades are turned in. *Please note that no resources other than a calculator will be allowed for use by students during the final exam. It is also a departmental policy that no TI-89 or TI-92 or comparable calculators be allowed for use during the final exam.*

Instructor Resources:

Resources available from the publisher