

Course Descriptions

Revised 2019-2020

Course Name *

Math 7

Teacher Name *

Abel Larkin

Prerequisite *

Math 6

Course Description *

This course builds on the number sense, arithmetic and geometry learned in previous years. I also includes operations involving negative numbers; graphing; proportions and percents; and basic statistics and probability. The goal is to provide a solid foundation for further understanding and achievement in Algebra.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

This course has applications and is needed in every field

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Course Descriptions

Revised 2019-2020

Course Name *

Math 8

Teacher Name *

Abel Larkin

Prerequisite *

Math 7

Course Description *

This course will build up on the topics learned in the previous year, as well as exploring linear relationships; congruent figures; the Pythagorean Theorem; and Surface Area and Volume of Three-Dimensional figures. The goal of this course is to cement the concepts needed in order to be successful in Algebra 1 and beyond.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

This course has applications and is needed for every field.

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Course Descriptions

Revised 2019-2020

Course Name *

Algebra 2 and Trigonometry

Teacher Name *

Abel Larkin

Prerequisite *

Algebra 1 and Geometry

Course Description *

This course extends the topics first seen in Algebra 1 and provides advanced skills in algebraic operations. Additionally, linear and quadratic functions and relations; conic sections; exponential and logarithmic functions; graphing; and sequences and series will be explored. Trigonometric topics include periodic functions, identities, and equations.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

Engineering, Technology, Architecture, Actuarial, Medicine

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Course Descriptions

Revised 2019-2020

Course Name *

Geometry

Teacher Name *

Mr. Green

Prerequisite *

Algebra

Course Description *

Geometry is intended to be the second course in mathematics for high school students. During high school, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions to establish the validity of geometric conjectures through deduction, proof, or mathematical arguments. Over the years, students develop an understanding of the attributes and relationships of two- and three-dimensional geometric shapes that can be applied in diverse contexts. The concepts of congruence, similarity, and symmetry can be understood from the perspective of geometric transformations. Fundamental are the rigid motions: translations, rotations, reflections, and sequences of these, all of which are here assumed to preserve distance and angle measure. Reflections and rotations each explain a particular type of symmetry leading to insight into a figure's attributes. Two geometric figures are defined to be congruent if there is a sequence of rigid motions that maps one figure onto the other. For triangles, congruence means that all corresponding pairs of sides and all corresponding pairs of angles are congruent. This leads to the triangle congruence criteria ASA, SAS, SSS, AAS and Hypotenuse-Leg (HL). Once these criteria are established using rigid motions, they can be used to prove theorems about triangles, quadrilaterals, and other geometric figures. Similarity transformations define similarity as a sequence of dilations and/or rigid motions that maps one figure onto another. Students formalize the similarity ideas of "same shape" and "scale factor" developed in the middle grades by establishing that similar triangles have all pairs of corresponding angles congruent and all corresponding pairs of sides proportional. These transformations lead to the criteria AA, SSS similarity, and SAS similarity for similar triangles. The definitions of sine, cosine, and tangent for acute angles are founded on right triangles and similarity, along with the Pythagorean Theorem and are fundamental in many mathematical situations. Radian measure will be introduced in Algebra II, along with the unit circle. Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area, and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line. They reason abstractly and quantitatively to model problems using volume formulas. Students prove and apply basic theorems about circles and study relationships among segments on chords, secants, and tangents as an application of similarity. In the Cartesian coordinate system, students explain the correspondence between the definition of a circle and the equation of a circle written

in terms of the distance formula, its radius, and coordinates of its center. Given an equation of a circle, students graph the circle in the coordinate plane and apply techniques for solving quadratic equations

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

Mathematics, carpentry, engineering, computer graphic design, robotics,
trandportation

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Course Descriptions

Revised 2019-2020

Course Name *

Intro to Precalculus

Teacher Name *

Mr. Green

Prerequisite *

Algebra 2 (Regents grade of 65% or better)

Course Description *

This course is a preparation for MTH 185. A review and extension of topics from Algebra 2 that will help students as they get ready for precalculus. Topics will include: linear functions, inverses, piecewise functions, rates of change, quadratic functions, transformations, exponential and logarithmic functions, trigonometric functions and applications, and rational functions. This course will also introduce students to coding and some of its applications.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

mathematics, engineering, computer science

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Course Descriptions

Revised 2019-2020

Course Name *

MTH 185 Precalculus

Teacher Name *

Mr. Green

Prerequisite *

Algebra 2 (85% or higher on Regents Exam), and Intro to Precalculus

Course Description *

This course is designed to prepare students for success in the study of calculus. Concepts and functions will be represented graphically, numerically, symbolically and verbally. Linear, quadratic, exponential, and logarithmic functions are reviewed. Critical thinking is developed as instruction focuses on the study of trigonometric, power, polynomial and rational functions and their operations. Students will be expected to demonstrate competence in the use of current technology as it applies to Precalculus topics.

This course satisfies a SUNY General Education learning outcome or outcomes. Some work that you do in this course (test, papers, projects) may be retained by Jefferson Community College in order to demonstrate to SUNY overall levels of student achievement for General Education.

Credit - Will this course receive college credit *

☒ Yes

☐ No

This course could lead to a career in: *

mathematics, engineering, computer scientist

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Course Descriptions

Revised 2019-2020

Course Name *

MTH 221 Calculus

Teacher Name *

Mr. Green

Prerequisite *

MTH 185

Course Description *

This course is an introduction to Calculus with emphasis on the concepts of limit, continuity, the derivative, and an introduction to integration. MTH 221 includes the following applications of the derivative: the derivative as a rate of change, optimization, and the application of the derivative to the solution of word problems. Students are required to develop and demonstrate literacy with current technology as it applies to the study of Calculus 1.

This course satisfies a SUNY General Education learning outcome or outcomes. Some work that you do in this course (test, papers, projects) may be retained by Jefferson Community College in order to demonstrate to SUNY overall levels of student achievement for General Education.

Credit - Will this course receive college credit *

☒ Yes

☐ No

This course could lead to a career in: *

mathematics, engineering, natural and social sciences, medical scientists

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Course Descriptions

Revised 2019-2020

Course Name *

MTH 222

Teacher Name *

Mr. Green

Prerequisite *

MTH 221 Calculus with a C or better

Course Description *

MTH 222 is the second course in the calculus sequence for students in mathematics, science, computer science, and engineering. The theory of integration, techniques of integration, numerical approximation of integrals, the application of integration to the solution of word problems, and an introduction to sequences and series, power series, and Taylor and Maclaurin Series. Students are required to develop and demonstrate literacy with current technology as it applies to the study of Calculus 2.

This course satisfies a SUNY General Education learning outcome or outcomes. Some work that you do in this course (test, papers, and projects) may be retained by Jefferson Community College in order to demonstrate to SUNY overall levels of student achievement for General Education.

Credit - Will this course receive college credit *

☒ Yes

☐ No

This course could lead to a career in: *

mathematics, engineering, computer science

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Course Descriptions

Revised 2019-2020

Course Name *

Algebra 1

Teacher Name *

Mrs Maryellen Thomes

Prerequisite *

Middle School Math

Course Description *

This course is the foundation for high school mathematics courses. It is the bridge from the concrete to the abstract study of mathematics. topics include simplifying expressions, evaluating and solving equations and inequalities, graphing linear and quadratic functions. Real world applications are presented within the course content and a function's approach is emphasized.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

Construction, Law, Medical, Aviation, Architecture, Engineering, etc.

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Course Descriptions

Revised 2019-2020

Course Name *

Algebra 1A

Teacher Name *

Mrs. Maryellen Thomes

Prerequisite *

Middle School Math

Course Description *

This course is the foundation for high school mathematics courses. It is the bridge from the concrete to the abstract study of mathematics. topics include simplifying expressions, evaluating and solving equations and inequalities, graphing linear and quadratic functions. Real world applications are presented within the course content and a function's approach is emphasized.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

Construction, Law, Finance, Engineering, Medical, etc

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Course Descriptions

Revised 2019-2020

Course Name *

Algebra 1B

Teacher Name *

Mrs Maryellen Thomes

Prerequisite *

Algebra 1A

Course Description *

This course is the foundation for high school mathematics courses. It is the bridge from the concrete to the abstract study of mathematics. topics include simplifying expressions, evaluating and solving equations and inequalities, graphing linear and quadratic functions. Real world applications are presented within the course content and a function's approach is emphasized.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

Construction, Law, Business, Architecture, Engineering, Education

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Course Descriptions

Revised 2019-2020

Course Name *

MTH098

Teacher Name *

Mrs Maryellen Thomes

Prerequisite *

Math Placement

Course Description *

This course is required of students whose math skills are identified as a pre-college by the college placement test. The course uses varying contexts, focusing on situations and techniques meaningful to college students, to promote mathematical problem solving, critical thinking, and writing skills. Topics include numeracy, proportional reasoning, algebraic reasoning, and modeling mathematical relationships.

Credit - Will this course receive college credit *

☐ Yes

☒ No

This course could lead to a career in: *

Any field of study at Suny Jefferson.

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Course Descriptions

Revised 2019-2020

Course Name *

MTH144 Elementary Statistics

Teacher Name *

Mrs Maryellen Thomes

Prerequisite *

Math placement or completion of MTH098

Course Description *

This course provides a basic introduction to statistics and its applications to mathematics, science, social science, and business. Emphasis is placed on calculating, interpreting, reading and reporting through writing, descriptive statistics. Topics include: The design of a statistical study, observational studies, experiments, graphs, tables, statistical notation, measures of central tendency, variability, probability, the normal distribution, correlation and regression. Students will be expected to read, summarize and interpret current newspaper and journal articles and/or conduct a survey and report the results. Students will also be expected to demonstrate competency with current technology.

Credit - Will this course receive college credit *

☒ Yes

☐ No

This course could lead to a career in: *

Any field of study at Suny Jefferson.

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