

NCBS 433: JUST-IN-TIME SUPPORT FOR MATH 33

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	0
Hours:	2.5 lecture per week (30 total per quarter)
Corequisite:	MATH 33.
Advisory:	Demonstrated proficiency in English by placement via multiple measures OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.
Degree & Credit Status:	Non-Degree-Applicable Non-Credit Course Basic Skills
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Non-Credit Course (Receives no Grade)
Repeatability:	Unlimited Repeatability

Student Learning Outcomes

- Students will assess their own learning process and performance.
- Students will define, interpret, and use variables to represent quantities that vary and develop conceptual understanding of the relationship between a variable and the real-life quantity that it represents.
- Students will develop conceptual understanding of the relationship between a linear or exponential function and its graph and related data table.
- Students will simplify expressions using the order of operations and solve linear and exponential equations involving one or two variables.

Description

A just-in-time approach to the core prerequisite skills, competencies, and concepts needed in Math for Financial Thriving. Intended for students who are concurrently enrolled in MATH 33 at Foothill College. Topics include: a review of computational skills developed in beginning and intermediate algebra, including proportional reasoning, order of operations, simplifying expressions, solving equations, use of variables, creating and using graphical displays.

Course Objectives

The student will be able to:

1. Explore and assess ways to be a more effective learner
2. Use algebraic notation and symbol manipulation strategies
3. Explore relationships via tables and graphs
4. Identify important features of graphs
5. Describe estimation strategies

Course Content

1. Explore and assess ways to be a more effective learner
 - a. Study skills
 - i. Time management
 - ii. Organization
 - iii. Deep learning
 - iv. Strategic learning
 - v. Test-taking strategies
 - vi. Authentic relating
 - b. Self-assess using performance criteria and mastery levels to judge and improve one's own work
 - i. Rubrics
 - ii. Identifying weaknesses and setting goals
 - iii. Learning from mistakes
 - c. Leverage learning resources
 - i. Study groups
 - ii. Canvas
 - iii. Video playlists
 - iv. Collaboration tools
 1. Microsoft 365
 2. Google
 3. Zoom
 - v. Computer labs
 - vi. Tutoring
2. Use algebraic notation and symbol manipulation strategies
 - a. Variables
 - b. Order of operations
 - c. Units
 - d. Dimensional analysis
 - e. Conversions
 - i. Percents
 - ii. Decimals
 - iii. Fractions
 - f. Solve single variable equations
 - i. Linear
 - ii. Exponential and logarithmic
 - iii. Quadratic and square root
 - g. Solve multivariable equations as needed
3. Explore relationships via tables and graphs
 - a. Linear
 - b. Exponential
 - c. Logarithmic
 - d. Multivariable
4. Identify important features of graphs
 - a. Vertical axis variable and units
 - b. Horizontal axis variable and units
 - c. Slope of linear function
5. Describe estimation strategies
 - a. Rounding
 - b. Counting up
 - c. Equivalencies
 - d. Proportional reasoning

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. Access to graphing technology, such as a graphing calculator or graphing software.
2. For all sections of this course, students will need access to a computer and the internet.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Group and independent exploratory activities
Homework
Performance in MATH 33

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Group work
Discussion
Mini-lectures
Instructor-guided discovery
Formative assessment

Representative Text(s) and Other Materials

No course materials.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Problem sets
2. Exploratory activities and/or projects
3. Reading and/or writing assignments

Discipline(s)

Mathematics