MATH-81: SUPPORT FOR MATHEMATICAL CONCEPTS

Effective Term
Fall 2024

CC Approval
03/01/2024

AS Approval
03/12/2024

BOT Approval
03/21/2024

SECTION A - Course Data Elements

CB04 Credit Status
Credit - Non-degree Applicable

Discipline

Minimum Qualifications	And/Or
Mathematics (Master's Degree)	

Subject Code
MATH - Mathematics
Course Number
81

Department
Mathematics (MATH)

Division
Mathematics (MATH)

Full Course Title
Support for Mathematical Concepts

Short Title
Support for Math Concepts

CB03 TOP Code
1702.00 - Mathematics Skills

CB08 Basic Skills Status
NBS - Not Basic Skills

CB09 SAM Code
E - Non-Occupational

Rationale
Co-requisite course for MATH-130 to comply with AB 1705 requirements and Chancellor's Office directives, open to other students who need support in math.

SECTION B - Course Description

Catalog Course Description
This course is intended for students who are almost ready to succeed in Math Concepts for Elementary School Teachers or students who want extra math support for their Chemistry or Health Occupations classes. Topics including solving, simplifying and operations will be covered.

SECTION C - Conditions on Enrollment

Open Entry/Open Exit
No

Repeatability
Not Repeatable

Grading Options
Pass/No Pass Only

Allow Audit
Yes

Requisites

Advisory Corequisite(s)
Required for students who place into MATH-130 (or equivalent) with support.

SECTION D - Course Standards

Is this course variable unit?
No

Units
1.00

Activity Hours
36

Outside of Class Hours
18

Total Contact Hours
36

Total Student Hours
54

Distance Education Approval

Is this course offered through Distance Education?
Yes

Online Delivery Methods

DE Modalities	Permanent or Emergency Only?
Entirely Online	Permanent
Hybrid	Permanent
Online with Proctored Exams	Permanent

SECTION E - Course Content

Student Learning Outcomes

	Upon satisfactory completion of the course, students will be able to:
1.	Simplify expressions.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1.	Perform basic operations with integers;
2.	Perform basic operations with fractions;

3.	Perform basic operations with decimals;
4.	Solve basic equations;
5.	Use patterns to determine the number of tiles in a figure;
6.	Perform multiplication of numbers using multiple methods;
7.	Evaluate expressions using the order of operations;
8.	Solve problems that have applications in the real world; and
9.	Study for a math class effectively.

Course Content

Using a just-in-time approach, the following content will be covered as required for success in the students current math related class.

1. Operations on whole numbers
2. Multiplying and dividing by powers of ten.
3. Order of operations
4. Ordering integers
5. Exponent rules
6. Fractions and divisibility including finding the greatest common factor and the least common denominator
7. Operations with fractions
8. Place Value
9. Operations with decimals
10. Ratios and proportions
11. Rate problems involving patterns
12. Applications and problem solving
13. Simplify expressions
14. Solve equations
15. Unit conversions
16. Metric system
17. Mass, volume and concentration applications
18. Reconstitution and dilution applications
19. Study skills / affective domain (this should be integrated into the class, not taught as a separate section)
    a. Growth mindset
    b. How to study for a math class
    c. Test taking strategies
    d. Campus resources

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Discussion	Discussion of class topics
Directed Study	Study of class topics
Group Work	Group work
Individualized Instruction	Individualized instruction to fill gaps
Other	Practice problems

Instructor-Initiated Online Contact Types

Announcements/Bulletin Boards
Discussion Boards
E-mail Communication
Video or Teleconferencing

Student-Initiated Online Contact Types

Discussions
Group Work

Course design is accessible

Yes

Methods of Evaluation

Methods of Evaluation

Types	Examples of classroom assessments
Class Participation	Participation in in class activities.
Oral Presentations	Presentations of sample problems.
Problem Solving	Practice solving problems.
Skills Demonstration	Demonstrate skills needed to use math in current class.
Other	It is recommended that half hour a week in the Math Success Center be assigned as a homework assignment worth 3 - 5% of the semester grade.
Homework	Homework problems.
Other	The Mathematics Department maintains a commitment to diverse teaching methods in courses emphasizing vital quantitative skills and qualitative reasoning ability. To that end, it is expected that sufficient formative assessments will be given to students that in frequency, length and rigor adequately assess both quantitative skills and qualitative reasoning.

Assignments

Reading Assignments

Example 1) Read section on base ten system.

Example 2) Read section on developing patterns.

Writing Assignments

Example 1) Complete assigned exercises from the assigned text.

Example 2) Group activity involving finding and describing patterns.

Other Assignments

Other assignments as needed.

SECTION F - Textbooks and Instructional Materials

Material Type

Open Educational Resource (OER)

Author

Michelle Manes

Title

Mathematics for Elementary Teachers

Edition/Version

Second

Publisher

Pressbooks

Year

2020

ISBN #

978-1-948027-04-5

Proposed General Education/Transfer Agreement

Do you wish to propose this course for a Local General Education Area?

No

Do you wish to propose this course for a CSU General Education Area?
No

Do you wish to propose this course for a UC Transferable Course Agreement (UC-TCA)?
No

Course Codes (Admin Only)

Allow Pass/No Pass
Yes

Only Pass/No Pass
No

Faculty Author's Comments
We are going to require this course for students who do not meet the minimum qualifications for Math 130 but also allow any student who needs support using basic math in their other classes.