Course Information

Course Title	Support Course for Mathematics for Business & Social Sciences
Course Prefix, Num. and Title	NCBM 0224
Division	Math & Physical Sciences
Department	Math / College Readiness Math
Course Type	Academic General Education Course (from ACGM, but not WCJC Core)
Course Catalog Description	The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. This course is designed to help students accelerate through the developmental math sequence in one semester. It focuses on the college readiness concepts necessary to successfully complete Mathematics for Business & Social Sciences concurrently. This class includes directed review, just-in-time instruction, and emphasis on math specific study skills. This course must be successfully completed with a "C" or better to satisfy TSI requirements.
Pre-Requisites	TSI Placement and Advisor/Instructor Recommendation
Co-Requisites	MATH 1324 Mathematics for Business & Social Sciences

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	2:2:0
Equated Pay Hours	2
Lab/Other Hours Breakdown: Lab Hours	0
Lab/Other Hours Breakdown: Clinical Hours	0
Lab/Other Hours Breakdown: Practicum Hours	0
Other Hours Breakdown	0

Approval Signatures

Title	Signature	Date
Prepared by:		
Department Head:		
Division Chair:		
Dean/VPI:		
Approved by CIR:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Unit 1 – Equations and Graphs
Adding and Subtracting Polynomials
Multiplying Polynomials
Solving Linear Equations
Factoring Trinomials
Simplify Square Roots
Quadratic Formula
The Rectangular Coordinate System
Finding Intercepts
Understanding Slope
Writing Equations of Lines

Unit 2 – Functions
Domain of Functions
Evaluating Functions
Characteristics of Parabolas
Asymptotes

Unit 3 – Exponential and Logarithmic Functions; Financial Math
Exponent Rules
Properties of Logarithms
Exponentials and Logarithmic Equations
Fractions, Decimals, and Percents
Simple Interest
Choosing appropriate Finance Formulas
Calculator Hints and Practice

Unit 4 – Matrices and Linear Programming
Systems of Equations
Multiplying Matrices
Row Operations
Graphing Linear Equations

Unit 5 – Probability and Measures of Central Tendency
Operations with Fractions
Probability
Mean, Median, Mode

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

1. Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.
2. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.
3. Apply basic matrix operations, including linear programming methods, to solve application problems.
4. Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.
5. Apply matrix skills and probability analyses to model applications to solve real-world problems

Methods of Assessment:

Final Exam (Required)

Other Methods of Assessment:
- Hour Exams
- Homework
- Quizzes
- Short Answer
- Discussion Board
- Participation
- Projects

Required text(s), optional text(s) and/or materials to be supplied by the student:

"Mathematics with Applications" by Lial et al; 12th edition; Pearson

Students must have computer access to the WCJC website, their WCJC student email and online accounts. WCJC has open computer labs, with internet access, on all campuses for students to use.

Suggested Course Maximum:

15

List any specific or physical requirements beyond a typical classroom required to teach the course.

None

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

A. Final Exam   15-30%
B. Other Course Requirements   70-85%

A = 90-100
B = 80-89
C = 70-79
D = 60-69
F = 59 or below

Curriculum Checklist:

☒**Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.

☐**Administrative WCJC Core Course**. Attach the Core Curriculum Review Forms

   ☐Critical Thinking

   ☐Communication

   ☐Empirical & Quantitative Skills

   ☐Teamwork

   ☐Social Responsibility

   ☐Personal Responsibility

☐**WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist