Administrative Master Syllabus

Course Information

Course Title	Mathematics for Teachers I (Fundamentals of Mathematics I)
Course Prefix, Num. and Title	Math 1350
Division	Math & Physical Sciences
Department	Mathematics
Course Type	Academic WCJC Core Course
Course Catalog Description	This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking.
Pre-Requisites	Math 1314 – College Algebra
Co-Requisites	None

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	3:3:0
Equated Pay Hours	3
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: Problem Solving; Sets
1-1 Mathematics and Problem Solving
1-2 Explorations with Patterns
2-2 Describing Sets
2-3 Other Set Operations

Unit 2: Numeration Systems and Whole Number Operations
3-1 Numeration Systems
3-2 Addition of Whole Numbers
3-3 Subtraction of Whole Numbers
3-4 Multiplication of Whole Numbers
3-5 Division of Whole Numbers

Unit 3: Number Theory and Integers
4-1 Divisibility
4-2 Prime and Composite Numbers
4-3 Greatest Common Divisor and Least Common Multiple
5-1 Addition and Subtraction of Integers
5-2 Multiplication and Division of Integers

Unit 4: Rational Numbers and Proportional Reasoning
6-1 The Set of Rational Numbers
6-2 Addition, Subtraction, and Estimation with Rational Numbers
6-3 Multiplication, Division, and Estimation with Rational Numbers
6-4 Proportional Reasoning

Unit 5: Decimals, Percents, and Real Numbers
7-1 Terminating Decimals
7-2 Operations on Decimals
7-3 Repeating Decimals
7-4 Percents
7-5 Real Numbers

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:
1. Explain and model the arithmetic operations for whole numbers and integers.
2. Explain and model computations with fractions, decimals, ratios, and percentages.
3. Describe and demonstrate how factors, multiples, and prime numbers are used to solve problems.
4. Apply problem-solving skills to numerical applications.
5. Represent and describe relationships among sets using the appropriate mathematical terminology and notation.
6. Compare and contrast structures of numeration systems.

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:

"A Problem Solving Approach to Mathematics for Elementary School Teachers" by Billstein/Libeskind/Lott, Pearson, 13th edition.

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:

35

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

Wharton County Junior College

Core Curriculum Review Form

Foundational Component Area: Core 020: Mathematics

Course Prefix & Suffix: MATH 1350 – Mathematics for Teachers I

Core Objective:
Critical Thinking Skills—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

Student Learning Outcome Supporting Core Objective:
For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Explain and model the arithmetic operations for whole numbers and integers. (SLO #1)	A word problem (application) where the student must model an arithmetic operation, and include a brief paragraph explaining what was done.	A quiz, test, or discussion board artifact showing the student's written answer. Grading for correctness and the rubric for critical thinking will assess this objective.
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.

Date: 11-15-2019

Foundational Component Area: Core 020: Mathematics

Course Prefix & Suffix: MATH 1350 – Mathematics for Teachers I

Core Objective:
Communication Skills—to include effective development, interpretation and expression of ideas through written, oral and visual communication

Student Learning Outcome Supporting Core Objective:
For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Explain and model the arithmetic operations for whole numbers and integers. (SLO #1)	A word problem (application) where the student must model an arithmetic operation, and include a brief paragraph explaining what was done.	A quiz, test, or discussion board artifact showing the student's written answer. Grading for correctness and the rubric for communication skills will assess this objective.
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.

Date: 11-15-2019

Wharton County Junior College

Core Curriculum Review Form

Foundational Component Area: Core 020: Mathematics

Course Prefix & Suffix: MATH 1350 – Mathematics for Teachers I

Core Objective:
Empirical and Quantitative Skills—to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Student Learning Outcome Supporting Core Objective:
For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Explain and model the arithmetic operations for whole numbers and integers. (SLO #1)	A word problem (application) where the student must model an arithmetic operation, and include a brief paragraph explaining what was done.	A quiz, test, or discussion board artifact showing the student's written answer. Grading for correctness and the rubric for EQS will assess this objective.
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.

Date: 11-15-2019