MTH233-01
Number Systems II
Spring 2020

Class Time and Location: M 6:00-8:45pm S 245

Instructor: Paulette Sherrer ED.S Arkansas State University
M.ED Harding University
B.S.E. John Brown University

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Co-requisite: Minimum score of 19 on both the mathematics and English sections of the ACT or a grade of C or better in MTH033 (Intermediate Algebra) or a minimum score of 41 on the COMPASS Algebra Skills Placement Exam

Resources:
Text: *Mathematics for Elementary Teachers – A Contemporary Approach, 8th Edition,* Musser, Burger, and Peterson, Copyright 2008. ISBN # 13 – 978 – 0470 – 10583 - 2

Required Materials:
TI-83/84 Calculator supplied by UARM as needed, 1 inch 3-ring notebook, college rule 3 hole paper, 4 notebook tab dividers, graph paper, pocket folder, mechanical pencils, small pack colored pencils, and a small ruler or straight edge.

Course Description: The content of this course includes a study of introductory geometry of plane figures; spatial perception involving three-dimensional geometry; congruence, symmetry and similarity; basic geometric constructions; metric measures; areas and perimeters of plane regions; volumes and surface areas of solids; algebra and coordinate geometry for graphing linear equations, circles and parabolas; statistics; and probability. Topic content levels appropriate for grades Pre-K through 8 are presented along with some methods, strategies, and use of manipulatives to foster understanding of concepts. This course is designed to better prepare future elementary and middle school teachers. (ACTS MATH 1104)

Program Outcomes: The purpose of the Associate of Arts Program is to provide students with the knowledge and critical thinking skills that will enable students to analyze problems, arrive at intelligent conclusions, and make reasoned choices in their professional and personal lives.

- Students will demonstrate competency in mathematics, including analytical and occupational skills.
- Students will apply technological skills to process information.
- Students will be prepared to compete academically upon transfer to a four-year institution.

Rationale: An objective of post-secondary education is to provide a core of knowledge that is shared with most educated people. By studying and developing a deeper understanding of mathematical computations, students can better analyze, problem solve, and prepare critical

thinking strategies for real world scenarios. Technological skills with the graphing calculator are necessary for future math courses.

Course Objectives: Upon successful completion of MTH 233 Number Systems II, the student should be able to:

1. Demonstrate concrete, pictorial, and abstract models for concepts and operations of decimals, ratio, proportion, percent, integers, rational, and real numbers.
2. Organize, interpret, and analyze statistics from many types of graphs.
3. Calculate and apply probability and counting techniques to real-world problems.
4. Recognize and analyze basic geometric shapes including polygons and various transformations.
5. Demonstrate understanding of measurement skills by calculating length, perimeter, area, surface area, and volume.

Students will demonstrate mastery of the above objectives by grades of C or above on journal entries, projects, presentations, portfolio, and final exam.

Topical Course Outline:

Week	**Math – Number Systems ll**	**Date/Day**
1	Chapter 10: Organizing and Picturing Information	1/13 M
2	Chapter 10: Analyzing Data	1/20 M
3	Chapter 12: Properties of Geometric Shapes	1/27 M
4	Chapter 12: Properties of Geometric Shapes	2/3 M
5	Chapter 11: Probability and Simple/Complex Experiments	2/10 M
	WINTER BREAK	**2/17 NO CLASS**
6	**Presentation 1 and Portfolio Due (Ch 10, 11, & 12)**	**2/24 M**
7	**Presentation 1 and Portfolio Due (Ch 10, 11, & 12)**	**3/2 M**
8	Chapter 13: Measurement with Nonstandard and Standard Units	3/9 M **Mid-terms DUE**
9	Chapter 13: Length, Area, Surface Area, Volume	3/16 M
	SPRING BREAK	**3/23 NO CLASS**
10	Chapter 7: Decimals, Ratios and Proportion, and Percent	3/30 M
11	Chapter 8: Addition, Subtraction, Multiplication, and Division of Integers	4/6 M
12	Chapter 9: Rational Numbers and Graphs	4/13 M
13	**Presentation 2 and Portfolio Due (Ch 7, 8, 9, & 13)**	4/20 M
14	**Presentation 2 and Portfolio Due (Ch 7, 8, 9, & 13)**	4/27 M
15	*Finals week* – **Final Exam and Portfolio Due**	*5/4 Week*

Important Dates:

February 10 (M)	Four Weeks grades due
February 17 (M)	Winter Break
March 9 (M)	Midterm grades due
March 23-27 (M-F)	Spring Break
April 6-10 (M-F)	Priority Registration for Summer and Fall
April 13 (M)	Twelve Weeks grades due
April 29 (W)	Honors Evening
May 1 (F)	Last day of classes/ last day to drop a class with a W
May 4-7 (M-Th)	Final Exams
May 7 (R)	Graduation; Grades due

Course Conduct: The class will be taught using a combination of group interaction, question and answer approach, lecture, and independent study. New topics will be demonstrated using the board, document camera with smart board, and many manipulatives to support development of concepts in a concrete fashion. Students are strongly encouraged to discuss concepts and examples as opportunities are presented during instructor presentation. It is the student's responsibility to inform the instructor when a concept is confusing or otherwise unclear.
You are encouraged to solve problems forming a study group and actively taking part in discussion. You may seek assistance from Student Support Services (SSS) or Learning Enrichment Advising Center (LEAC) to check the concepts in homework assignments, quizzes, and exam reviews but it is not the responsibility of SSS or LEAC to teach the entire lesson to complete your homework, neither can you directly ask for the answer. In case of extreme difficulty, you must inform me no later than two weeks after the class starts.

UA Rich Mountain Credit Hour Calculator: For every course credit hour, you should expect to spend at least three clock hours per week of concentrated attention on course-related work, including but not limited to time attending class, as well as out-of-class time spent completing homework, seeking help from instructor or tutors, preparing for upcoming quizzes/tests/exam, reviewing material, problem solving, and organizing your notebook. For a three-hour course, a typical student should expect to spend at least nine hours per week dedicated to this course. This includes the time spent in class. Please see credit hour calculator attached to end of syllabus.

Course Requirements / Evaluation (Grading):

Syllabus Items	# of Total Items	# of Points an Item	# of Total Points	# of hrs a Week/Total	# of hrs a Term/Total	% of Total Grade
*Attendance		6	100			10%
Journal Entries	15	10	150	2 / 30		15%
Homework	10	10	100	4 / 40		10%
Projects	2	100	200		10 / 20	20%
Presentations	2	100	200		10 / 20	20%
Final Portfolio	1	150	150		10 / 10	15%
Final Exam	1	100	100		4 / 4	10%
			Total = 1000	**Total = 124 hours**		**100%**

*Attendance will be counted as an additional grade, three points accumulating each class period for a total of 100 points. Absences due to official school activities do not apply.

Criteria for Credit: Work must be neat and complete. Each problem assigned has three parts: 1) the original problem complete with figures drawn, 2) all steps or an explanation of how to arrive at the correct answer, and 3) the final answer. ***Answers alone are not acceptable***. Use pencils and straight edge paper; no ink or ruffles please. Write your name and the lesson topic and number at the top of the first page. Leave a blank line between problems. For immediate feedback, you may check your answers for most assigned problems in the back of the book. Find and correct any mistakes. *You will not receive credit for any problems not meeting the criteria for credit described above.*

90 – 100 = A **80 – 89 = B** **70 – 79 = C** **60 – 69 = D** **0 – 59 = F**

Class Procedures/Student Requirements:
Students are expected to participate in class and contribute to their own learning. The student portal will be available for accessing needed documents.

Attendance / Make-up Policy: No make-up exam will be given. Course portfolios are due just before taking the exam. Late portfolios will be penalized. The student is responsible for instruction missed during class by studying the material in the book, seeking help from the teacher and/or student support services, and by getting class notes from the teacher or another student.

Cell Phones: The use of cell phones in the classroom is prohibited. Turn cell phone off or set on vibrate and store it out of sight during class time. ***Cell phones will be taken up during exams.***

Academic Dishonesty: Any suspicion of academic dishonesty will result in no credit for the paper in question.

Computer and On-Campus Resources: Computer labs with printers are available in several places on campus including the Johnson Learning Commons. UA Rich Mountain offers students assistance with quality tutors available in the Student Support Services (SSS) and Learning Enrichment and Counseling Center (LEAC) in the Johnson Learning Commons. You may access www.tutor.com/uarichmountain nights and weekends when SSS is not available.

Disability Policy: It is the policy of UA Rich Mountain to accommodate students with disabilities, pursuant to state and federal law. Any student with a disability who needs accommodations should contact the Vice Chancellor for Student Affairs Office, 394-7622, ext. 1460.

Arkansas Clean Air Act: In compliance with the Arkansas Clean Air Act, UA Rich Mountain is a smoke and tobacco free facility. Students and guests are to refrain from the use of all tobacco products while on campus.

Student Misconduct: Students committing misconduct are subject to disciplinary sanction(s) and/or restrictions. Misconduct or prohibited behavior includes, but is not limited to endangerment, harassment, disruption, sexual misconduct, illegal drugs and/or alcohol, fire or safety issues, gambling, property violations, computer violations or other violations as listed in the UA Rich Mountain catalog.

UARM: The University of Arkansas Rich Mountain exists to provide all residents of the Ouachita Mountain Region with exemplary educational and enrichment opportunities to improve the quality of life and standard of living.

Campus Security: UA Rich Mountain strives to provide a safe learning environment; therefore, students who know of any security risk are asked to contact a college official. For more information follow this link and look under the title Health and Safety:
http://www.uarichmountain.edu/at-a-glance/disclosures

Credit Hour Requirement Calculator

Course Information

Department, Course Number	Mathematics	MTH233
Course Title	Number Systems Il	
Credit Hours	3	
Mode of Delivery	Traditional	
Weeks in Part of Term	15	
Level of Reading Material	Advanced/Scientific/Technical (2)	2
Reading Level of Students	Average Student (2)	2
Average Pages per Hour	11	

Contact Hours	**Hours/Week**	**Hours/Term**	**Total Hours**
Lecture/Recitation		45	45

Total Hours	**Required Hours**	**Total Hours**
	112.5	124