MAT 331 MATHEMATICS THROUGH PROBLEM SOLVING

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Monday	Tuesday	Wednesday	Thursday	Friday
8.30-9.00	8.30-12.00	8.30-9.00	8.30-12.00	10.00-11.00
10.00-11.00		10.00-11.00		

Course Designation
MAT 331. Mathematics Through Problem Solving. Professional subject matter of elementary school mathematics. Prerequisite: MAT 131. 3 credit hours.

Text: Musser, Burger and Peterson: Mathematics for Elementary Teachers Eighth Edition, John Wiley & Sons, 2008.

General Objectives
This course is more than a mathematics content course; content-specific methods will be considered. The course is designed to provide the prospective teacher, who has knowledge of the content of elementary school mathematics, with strategies for teaching mathematics. The National Council of Teachers of Mathematics document, Curriculum and Evaluation Standards for School Mathematics, lists five general goals for all students. All students will (1) learn to value mathematics, (2) become confident in their ability to do mathematics, (3) become mathematical problem solvers, (4) learn to communicate mathematically, and (5) learn to reason mathematically. The NCTM document, Principles and Standards for School Mathematics that was released in April, 2000, addresses six principles for school mathematics: equity, curriculum, teaching, learning, assessment, and technology. These are also goals and principles for the students in this class. Additionally, goals of this course include the following: students will develop proficiency in modeling mathematical concepts using a variety of concrete materials, apply critical judgment to resources for the purpose of investigating materials and strategies, compare traditional approaches to teaching and learning mathematics to current research on how children learn, use technology appropriately in teaching and learning mathematics for elementary school, and compare national standards to the Mississippi Curriculum Framework for mathematics. Specific course objectives are available on the mathematics department web page.

Content To Be Considered
Numeration and number sense
Operations on whole numbers, fractions, decimals, including meanings, algorithms and diagnosis of computational errors
Mental computation and estimation
Patterns and relationships
Problem Solving
National and state standards for teaching mathematics

Presentation Methods
Lecture/discussion Small groups Laboratory activities Demonstrations

Activities and Requirements
Arriving on time for class.
Full participation in class discussions and in-class activities.
Performance assessments.
Written examinations (2 tests and 1 final examination).
Calculator for outside assignments.
Class demonstration (a carefully planned presentation focused on content and teaching strategies).
Demonstration of understanding of readings.
Text and video reflections.
Technology connections.
Literature connection.
Notebook, 3 ring about 1 ½ in. with plenty of loose-leaf notebook paper and dividers.

Passing a rational numbers examination. Every students must take and pass a rational numbers test with no less than a 80% by the end of the current semester. Each student may take the examination at most three times during the semester. If a student does not pass the examination on the third attempt or by the drop date the student will receive a "F" in the course. Your first examination will be in class; whereas, the second two examinations, if needed, will be taken out of class at a time agreed upon by both the student and instructor.

Students are encouraged to work together on assignments unless specific directions are given that prohibit such collaboration.

Students are responsible for the costs of printing papers if "pay for print" labs are used.

Homework must be turned in to the instructor in on time. If you have an excused absence, you may turn your work in on or before the next scheduled class meeting. No late homework will be accepted.

Scheduled tests will be announced at least one week in advance. Only those presenting a written excuse, acceptable by the university, will be able to make up tests. Failure to provide an acceptable excuse will result in your not being able to take the make-up and therefore, resulting in a zero.

Evaluation and Grading
The grading scale used in this course is the following percentage of total points:

A 100%-94% B 93%-84% C 83%-74% D 73%-65% F Below 65%

Test I	20%
Test II	20%
Presentations, demonstrations, literature connection, homework, and writings	30%
Class participation	10%
Final Exam	20%

Cheating on tests or plagiarism on out-of-class work, etc. will result in serious academic penalty, including, but not limited to, a zero on the work in question. If an emergency arises that requires you to leave the room during a testing period, the instructor must grant permission or the test will be graded on the basis of the work completed at the time you leave.

Within each category the average will be computed on a part out of total procedure. For example, suppose that you receive the following scores of three test: 51 out of 57, 78 out of 123, and 44 out of 45. The test average will be computed as follows:

$$\frac{51+78+44}{57+123+45}=\frac{173}{225}=76.89\%$$

No late assignments will be accepted, but the two lowest homework - quizzes will be dropped. **Everything you turn in should be your best work**. There is no excuse for spelling errors, grammatical errors, etc. in out-of-class work where you have time to check, re-check, and have someone else read your material, if necessary. You are going to be a teacher. This means something very special to me in terms of how much you have to demand of yourself if you ever intend to demand excellence of your students. You are doing each of the required activities to learn something important about teaching and learning mathematics. You are not doing any of them just to fulfill a requirement. **Our children deserve the very best!**

Attendance
The maximum number of absences allowable is the equivalent to two weeks of classes. This means for a Monday-Wednesday-Friday class six or four for a Tuesday-Thursday class. If you exceed the allowable number of absences, a grade of "F" will be assigned as the final grade in the course. The only absences that do not count in this list is official university business such as but not limited to sporting activities for student athletes, or conflicts caused by other university activities. Since class time will be spent learning together and modeling lesson development and activities appropriate for problem-centered learning, punctual attendance is necessary. You are responsible for all things we do in class. If you are absent, it is your responsibility to understand what you missed. **This is very important.** Many of the in-class activities that contribute to course understanding are very difficult to make up. This is why it is so important that you do not miss class.

Everything you turn in should be your best work. There is no excuse for spelling errors, grammatical errors, etc. in out-of-class work where you have time to check, re-check, and have someone else read your material, if necessary. You are going to be a teacher. This means something very special to me in terms of how much you have to demand of yourself if you ever intend to demand excellence of your students. You are doing each of the required activities to learn something important about teaching and learning mathematics. You are not doing any of them just to fulfill a requirement. Our children deserve the very best!

Classroom Policies and Make-Up Tests:
Students are expected to conduct themselves in a professional academic fashion at all times. Cell phones are not to be used in this class for any reason. If you have a cell phone out, you may be asked to leave the

class for the remainder of the period. Make-up examinations will be scheduled at a time convenience of the instructor.

Important Dates:

January 21	Last day to add a course
January 26	Last day to change from credit to audit
January 27	W/F grades are in effect
March 10	D/F reports are due
March 15-19	Spring break
April 2	Good Friday
April 30	Last day to drop a course
May 3-7	Final exams

The instructor reserves the right and privilege to change and alter these guide lines with due notice to the student.

Notice to all students: OKRA mail is the official email communication system between the university and students, and this is the only email address this instructor will use for communication purposes with students

Delta State University is committed to a policy of equal employment and educational opportunity. Delta State University does not discriminate on the basis of race, color, religion, national origin, sex, age, disability, or veteran status. This policy extends to all programs and activities supported by the University.

If a student has a disability that qualifies under the American with Disabilities Act and requires accommodation, he should contact the Academic Support Lab (Union 311; phone 846-4654) for information on Appropriate policies and procedures.