I. **Course Description**
This is a course for teachers of K-12 who teach mathematics within the levels of kindergarten through algebra and wish to investigate mathematical errors for the purpose of diagnosing the cause and planning the instruction for the purpose of remediation. Participating teachers will work through activities representing common mathematical errors made by students, maintain portfolios of samples of students’ errors, diagnose student errors, and learn teaching strategies for remediation of the problems that students are having.

II. **Rationale**
This course is designed for classroom teachers of mathematics who find they have students who are making errors in mathematics and need re-teaching. This course provides the conceptual framework for exploring elementary/middle school mathematics with deeper understanding, connections, and communication. Manipulatives and technology will support the problem-solving approach. This course is designed to emphasize in-depth basic understandings of mathematical concepts as core ideas in the elementary/middle school mathematics curriculum. Communicating concepts, processes or solutions effectively, in oral and written forms, will be emphasized.

III. **State Adopted Proficiencies for Teachers and/or Administrators/Counselors**
Not applicable

IV. **TExES Competencies**
Not applicable

V. **Course Objectives/Learning Outcomes**
*This course is designed to enable students to:*
This course is designed to enable participating teachers to:
1. demonstrate knowledge of appropriate corrective techniques
2. demonstrate knowledge informal techniques to assess mathematics ability
3. adapt mathematical approaches and materials to meet the needs of the individual student
4. develop an appropriate dynamic instructional remediation plan for a student
5. complete programmed instructional activities designed to illustrate common mathematical errors and methods for remediating them.
6. practice teaching strategies for remediating common mathematical errors
7. apply concepts and processes learned in class by collecting samples of the work of one or more children in the math camp to be used for:
   A. Applying diagnostic procedures.
   B. Planning for remedial instruction.
8. Review and discuss literature related to the diagnosis of mathematical errors.
9. Become familiar with tests that are used by diagnosticians for conducting formal diagnostic evaluations of student errors in mathematics.

VI. Course Topics
The major topics to be considered are:
1. What is meant by diagnosis and remediation
2. How traditional teaching methods can lead to common mathematical errors
3. The importance of alternative teaching strategies for remediating student errors
4. Assessing Children’s Mathematical Process
5. Designing appropriate instruction based on assessment
6. Relate appropriate TEKS to assessment finds

VII. Instructional Methods and Activities
Methods and activities for instruction include:
A. Traditional Experiences: background reading, exploration, reflection, lecture/discussion, demonstration, guest speakers, videos
B. Clinical Experiences: A substantial portion of the class instructional plan will be using physical models such as manipulatives to teach the content topics, and understanding how learning occurs through their use including simulations; cooperative groups; student demonstrations or presentations; guided discovery
C. Field Experiences: attendance at ME by the SEa

VIII. Evaluation and Grade Assignment
The methods of evaluation and the criteria for grade assignment are:
A. Methods and Percentage of Final Course Grade Each Assessment Constitutes
The methods of evaluation and the criteria for grade assignment are:
Method
1. Case study portfolio: You will work with a small group of children at the math camp. You will administer some informal assessments and provide instruction based on the results of your assessments. The results of your work with these students will be summarized in a case study. It is expected that your work be well written, word-processed, spell-checked and grammatically correct. Points will be taken off if I have to make major (grammatical/spelling, etc.) corrections to your paper.
A. Summary
1. Pupil background — name, age, relevant school experiences, other relevant personal information.
2. Summary of Corrective Action
3. Recommendations to parent
B. Supporting Material
Should contain a log of the days you met with the child; may be handwritten.

2. Student Math Profile
You will prepare a preliminary report on your assessment findings on a Student Math Profile. Your scores and examples of student performance will be turned in at the end of the first week of tutoring.

3. Instructional Plan
You will develop an instructional plan of action for your student based on the results of the assessments you conduct. This plan must show evidence of appropriate assessment interpretation, appropriate instructional strategies and materials, and alignment with appropriate TEKS.

4. Tutoring sessions: You will have 8 tutoring sessions with your group of students. You are required to be present for all tutoring sessions. If you can't make it you must ask a classmate to take your students for that day, so make sure you get cell phone numbers and any other information you need from your classmates.
   a. You will prepare a “Tutoring Plan” for each day you assess and instruct students. The plan may be handwritten. All plans will be turned in with the final case study.
   b. You will develop hands-on activities based on mathematics-enhanced children’s literature and other interactive math games for the students you tutor.

Points
A. Student Math Profile 20 points
B. Instructional Plan 40 points
C. Case study portfolio 25 points
D. ME by the SEa paper 15 points
   Total 100 points

Grading Scale

92-100% =A
84-91% =B
75-83% =C
67-74% =D
below 67% =F
IX. Course Schedule and Policies

A tentative course schedule

Jun. 6  Introductions, Syllabus

Jun. 7  Building Assessment into Instruction

Jun. 11  Number and Operation: Computation

Jun. 12  Diagnosing Misconceptions and Error Patterns in Computation

Jun. 13  Providing Data Driven Instruction in Computation

Jun. 14  Assessing Children’s Mathematical Progress

Jun. 15  ME by the SEa 9:00 – 3:30

Jun. 18  Tutoring session 1

Jun. 19  Tutoring session 2

Jun. 20  Tutoring session 3

Jun. 21  Tutoring session 4

Jun. 25  Tutoring session 5

Jun. 26  Tutoring session 6

Jun. 27  Tutoring session 7

Jun. 28  Tutoring session 8

July 2  Case Study Portfolio due

B. Class Policies

Attendance/tardiness
Attendance will be recorded for this class. Points will be deducted for class absences.
Notification of an absence does not constitute a class waiver.

Late work and Make-up Exams Points may be deducted for late work at the discretion of the professor.
Extra Credit Assignments may be given at the discretion of the professor.

Cell Phone/Electronic Device Usage Cell phones and other electric devices should not be used during class. If a potential emergency exists where a student is expecting an important call concerning a child or family member, the phone should be put on vibrate.

Academic Integrity/Plagiarism.

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a level of discipline appropriate to the misconduct. This may include a requirement to re-do work in question; requirement to submit additional work; lowering of grade on work in question; assigning grade of ‘F’ to work in question; assigning grade of ‘F’ for course; recommendation for more severe punishment, such as suspension or dismissal from the University. The procedure for Academic Misconduct cases is posted on BlackBoard.

Learning and teaching take place in an atmosphere of intellectual freedom and openness. All members of the academic community are responsible for supporting freedom and openness through rigorous personal standards of honesty and fairness. Plagiarism and other forms of academic dishonesty undermine the very purpose of the university and diminish the value of an education.

Plagiarism is wholly unacceptable and, for the purposes of this course, is defined as using in part or in whole any material written or designed by someone other than the student, unless specific credit is given to the person or resource material used. This includes, but is not limited to: lesson plans found on the Internet and/or provided by classroom teachers, or found in any form of publication (e.g., books, magazines, Internet sites), book descriptions/reviews, course work done by previous students (or any other current or TAMU-CC student). Appropriate citation of resources is required.

Dropping a Class

I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class.

Preferred methods of scholarly citations

**Classroom/professional behavior**
- Participate cooperatively in class discussions & lessons.
- Word-process all assignments (1 inch margins, 12 point font, Times New Roman). Written work should be clear, concise, and written in an academic manner. The Writing Center is available for help with written assignments.
- Additional assignments may be required if they will benefit the course objectives.
- Assignments and due dates may be modified at the discretion of the instructor if they will benefit/enhance the outcomes of the course.
- Be responsible for any information and materials missed when absent.
- No incomplete grades will be given.
- All students are expected to participate fully in class discussions, presentations, and group work. Failure to participate will affect your grade.

X. **Textbook(s)**
*The textbook(s) adopted for this course is:*

XI. **Bibliography**
*The knowledge bases that support course content and procedures include:*


XII. Grade Appeals*

As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

XIII. Disabilities Accommodations*

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Driftwood 101.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

*Required by SACS

Slightly revised again by Jack Cassidy, co-chair Curriculum Coordinating Committee, 11/10/10.