I. Course Description
3 semester hours
A course designed to emphasize methods of teaching the essential elements in mathematics for Grades 1-5. An emphasis will be placed on the use of concrete manipulatives so that learning is accomplished with understanding.

II. Rationale
Persons pursuing a graduate degree in education will benefit from learning how incorporating research-based instructional practices into their classroom will help their students become active, engaged learners and increase student achievement. This course is designed for graduate students who want to enhance and expand their understanding of current methods in math education.

III. State Adopted Proficiencies for Teachers
I. §149.1001. Teacher Standards.
   (1) Standard 1--Instructional Planning and Delivery. Teachers demonstrate their understanding of instructional planning and delivery by providing standards-based, data-driven, differentiated instruction that engages students, makes appropriate use of technology, and makes learning relevant for today's learners.
   (2) Standard 2--Knowledge of Students and Student Learning. Teachers work to ensure high levels of learning, social-emotional development, and achievement outcomes for all students, taking into consideration each student's educational and developmental backgrounds and focusing on each student's needs.
   (3) Standard 3--Content Knowledge and Expertise. Teachers exhibit a comprehensive understanding of their content, discipline, and related pedagogy as demonstrated through the quality of the design and execution of lessons and their ability to match objectives and activities to relevant state standards.
   (4) Standard 4--Learning Environment. Teachers interact with students in respectful ways at all times, maintaining a physically and emotionally safe, supportive learning environment that is characterized by efficient and effective routines, clear expectations for student behavior, and organization that maximizes student learning.
   (5) Standard 5--Data-Driven Practice. Teachers use formal and informal methods to assess student growth aligned to instructional goals and course objectives and regularly review and analyze multiple sources of data to measure student progress and adjust instructional strategies and content delivery as needed.
   (6) Standard 6--Professional Practices and Responsibilities. Teachers consistently hold themselves to a high standard for individual development, pursue leadership opportunities, collaborate with other educational professionals, communicate regularly
with stakeholders, maintain professional relationships, comply with all campus and school district policies, and conduct themselves ethically and with integrity.  

Statutory Authority: The provisions of this §149.1001 issued under the Texas Education Code, §21.351.  
Source: The provisions of this §149.1001 adopted to be effective June 30, 2014, 39 TexReg 4955.

IV. TExES Competencies

This course is designed for teachers who are already certified. TExES competencies, although expanded upon within this course, are not identified since the participating teachers will have already completed their examinations.

V. Course Objectives/Learning Outcomes

This course is designed to enable students to:

1. Reflect upon their own background in mathematics education and analyze their commitment and outlook toward being a mathematics education professional.
2. Examine research gathered from various educational journals concerning topics being taught at their chosen grade level for the purposes of a) evaluating the research and b) incorporating the better ideas from the research into their planning/teaching.
3. Become proficient in the use of various manipulatives in the teaching of mathematics.
4. The student will write an **Instructional Strategies Self-Study** based on how they will plan to change a current lesson based on the chapters presented, videos from discussion board, and article summaries.

VI. Course Topics

*The major topics to be considered are:*
- Fostering Mathematical Reasoning and Problem Solving
- Planning and Assessment
- Early Number and Numeration
- Whole Number Operations
- Algebraic Thinking
- Rational Numbers: Fractions
- Geometry

VII. Instructional Methods and Activities

Traditional experiences (reading assignments, journal article reviews, written assignments, on line discussion)
BlackBoard assignments and interaction
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

1. Article reflections (28%) - You will be reading several articles from national journals. After reading each article and reflecting upon its important issues it addresses, you will write a 2 or 3 sentence summary and 3-5 bullets reflecting what you want to remember from this article that you think are important, or it may be things you want to do back in the classroom. You also need to include your “Personal Connection” to the article, something that just strikes you (your AHA). At the top of the page will be the bibliographical information written in APA format. This must be typed in a 12 pt. font Times New Roman. Points will be deducted for spelling, grammar, etc. Do not write more than one page per article.

2. Quizzes: 16%. You will take a Syllabus quiz after reading the syllabus, and Module quizzes after reading chapters in the textbook.

3. Instructional Strategies Self-Study (15%)
   Students will select a specific grade and math content for study. Students will analyze their current classroom practices as they relate to the research-based instructional approaches discussed in the course. They will develop a plan that would implement changes that would be appropriate, responsible, and effective for their math concept.

4. Discussion board (8%)

5. Math autobiography (4%)

6. Participation- 9%

Grading: EDCI 5335

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Article Reflections</td>
<td>28%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>16%</td>
</tr>
<tr>
<td>Instructional Strategies Self-Study</td>
<td>15%</td>
</tr>
<tr>
<td>Discussion board of videos</td>
<td>8%</td>
</tr>
<tr>
<td>Math autobiography</td>
<td>4%</td>
</tr>
<tr>
<td>Participation</td>
<td>9%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
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</tbody>
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B. Grading Scale

Grades:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>92-100%</td>
<td>=A</td>
</tr>
<tr>
<td>83-91%</td>
<td>=B</td>
</tr>
<tr>
<td>74-82%</td>
<td>=C</td>
</tr>
<tr>
<td>65-73%</td>
<td>=D</td>
</tr>
<tr>
<td>below 64%</td>
<td>=F</td>
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</tbody>
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IX. Course Schedule and Policies

A. A tentative course schedule:

B. Course Schedule Overview

EDUC 5354 Methods of Teaching Mathematics
Summer 2018
You may work ahead, but not backwards.

<table>
<thead>
<tr>
<th>Class Meetings</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 4</td>
<td>Module 1: Fostering Mathematical Reasoning and Problem Solving (Chapters 1-3)</td>
</tr>
<tr>
<td>June 6</td>
<td>Module 2 Planning and Assessment (Chapters 4-7)</td>
</tr>
<tr>
<td>June 7</td>
<td>Module 3: Early Number and Numeration (Chapter 8)</td>
</tr>
<tr>
<td>June 12</td>
<td>Module 4: Whole Number Operations (Chapter 9 - 13)</td>
</tr>
<tr>
<td>June 13</td>
<td>Module 5: Algebraic Thinking (Chapter 14)</td>
</tr>
<tr>
<td>June 18</td>
<td>Module 6: Rational Numbers: Fractions (Chapters 15-16)</td>
</tr>
<tr>
<td>June 19</td>
<td>Module 7: Geometry (Chapter 20)</td>
</tr>
<tr>
<td>June 21</td>
<td>Presentations</td>
</tr>
<tr>
<td>June 25</td>
<td>Presentations</td>
</tr>
<tr>
<td>June 28</td>
<td>Presentations and Instructional Strategies Self-Study due</td>
</tr>
</tbody>
</table>

B. Class Policies

Late assignments
Late assignments will not receive full credit. Communicating an excuse for a late assignment does not constitute a waiver of the deadline or avoid the deduction.

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.

Extra Credit
Extra credit is not an option for this course.

X. Textbook(s) Recommended

Elementary and Middle School Mathematics: Teaching Developmentally, Enhanced Pearson eText with Loose-Leaf Version -- Access Card Package, 9/e Van de Walle, Karp & Bay-Williams, or previous editions on loan from professor
XI. Bibliography

The knowledge bases that support course content and procedures include:


National Council of Teachers of Mathematics (2014) *Principles to Actions: Ensuring Mathematical Success for All.* Reston, VA.


**Additional Policies**

*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**

**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.
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.

XIV. Statement of Academic Continuity*
In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.