I. Course Description

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. The course is offered in conjunction with the annual ME by the SEa Conference.

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 attend ME by the SEa and evaluate four sessions.
5. The student will write a reflection paper based on how they will plan to change a current lesson based on the chapters presented, articles 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, conference attendance

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 (26%) - 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. Conference Attendance: Students must attend the ME by the SEa Conference, June 15, 2018. Conference reaction papers (20%): Students must complete four written reaction papers reflecting their engagement with and evaluation of one keynote address and three regular conference sessions.
3. Quizzes: 16%. You will take a Syllabus quiz after reading the syllabus, and Module quizzes after reading chapters in the textbook.
4. Instructional Strategies Self-Study (10%)
   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.
5. Math autobiography (4%)
6. Journal responses (4%)
7. Literature Review (20%)
The topic will be an important current trend in classroom assessment.
   1. Paper should be a minimum of 8 pages, but no more than 10 pages. Doctoral students must utilize a minimum of 7 peer-reviewed articles from professional educational journals.
   2. The paper must include the following: Title Page, Abstract, Keywords, Introduction, Review of the Literature, Discussion, Conclusion, and References.
   4. If using a Bell Library database rather than the hard copy of a journal, use articles with PDF files only, unless the article is from an Internet-only journal. Remember the article must be peer reviewed.
   5. Remember to use the doi number, if available.

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
Grading: EDCI 6390

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Article Reflections</td>
<td>26</td>
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<tr>
<td>Conference reaction reports</td>
<td>20</td>
</tr>
<tr>
<td>Quizzes</td>
<td>16</td>
</tr>
<tr>
<td>Instructional Strategies Self-Study</td>
<td>10</td>
</tr>
<tr>
<td>Math autobiography</td>
<td>4</td>
</tr>
<tr>
<td>Journal responses</td>
<td>4</td>
</tr>
<tr>
<td>Literature Review</td>
<td>20</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:

- 92-100% = A
- 83-91% = B
- 74-82% = C
- 65-73% = D
- below 64% = F

**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>
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<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>
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<tr>
<td>June 7</td>
<td>Module 3: Early Number and Numeration (Chapter 8)</td>
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<tr>
<td>June 12</td>
<td>Module 4: Whole Number Operations (Chapter 9 - 13)</td>
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<tr>
<td>June 13</td>
<td>Module 5: Algebraic Thinking (Chapter 14)</td>
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<tr>
<td>June 15</td>
<td>ME by the SEa, 8:30am – 4:00pm, Center for Instruction</td>
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<tr>
<td>June 18</td>
<td>Module 6: Rational Numbers: Fractions (Chapters 15-16)</td>
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<tr>
<td>June 19</td>
<td>Module 7: Geometry (Chapter 20)</td>
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<tr>
<td>June 21</td>
<td>Presentations</td>
</tr>
<tr>
<td>June 25</td>
<td>Presentations</td>
</tr>
<tr>
<td>June 28</td>
<td>Presentation and reflection paper 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:


Additional Policies

*Cell Phone/Electronic Device Usage*
Cell phones and other electronic 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

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.