I. Course Description
This is a course for K-12 teachers who wish to investigate the use of interactive and multimedia activities as a part of the instructional program within mathematics. Emphases will be placed on the purposes for using such activities in mathematics programs, the various types of such activities that are available to the mathematics teacher, the sources for such activities in mathematics, and the need for having a variety of such activities within the mathematics program.

II. Rationale
This course is offered for the purpose of post-baccalaureate continuing education for K-12 teachers of mathematics and/or science. The teaching process in mathematics has two distinctive components – learning and practice. The activities emphasized in this course provide methods of planning the latter. While it can be difficult to get students to participate in other methods of practice, the activities emphasized here tend to provide a vehicle for such practice that is highly motivational. These activities, however, are only motivational as long as a teacher has a wide variety of them. This class allows teachers to research and collect activities that are appropriate for providing motivation for practicing the mathematics and science objectives they teach.

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:
1. Research and discuss the types of interactive and multimedia activities that are available to the mathematics teacher.
2. Identify available sources for interactive and multimedia activities to be used in the mathematics program.
3. Discuss the reasons for needing a variety of interactive and multimedia activities for use within the instructional program in mathematics.
4. Create original interactive and multimedia activities for use within the instructional program in mathematics.
5. Create, collect, and present a variety of interactive and multimedia activities for various mathematics topics within the instructional program in mathematics.
VI. Course Topics:
The major topics to be considered are:

1. How interactive and multimedia activities should fit within the instructional program
2. Appropriate times and ways for using interactive and multimedia activities within the instruction program
3. What the National Council of Teachers of Mathematics suggests related to the use of interactive and multimedia activities within the instructional program
4. Selection of interactive and multimedia activities to coordinate with the TEKS
5. Categories of types of interactive and multimedia activities that are available for use in the instructional program
6. Resources that are available for finding interactive and multimedia activities for use in the instructional program
7. Reasons for having and using a wide variety of interactive and multimedia activities in the instructional program

VII. Instructional Methods and Activities
Methods and activities for instruction include:
- Whole class and group discussions
- Direct instruction
- Modeling
- Student and teacher presentations
- Research

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

Presentations (30%)- You will identify several interactive and multimedia activities, determine the mathematical concepts embedded within, and present them to a group of your peers.

Article reflections (20%)- In lieu of assigned readings from a textbook, we 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 will also have an “AHA!!”, which is something that just strikes you! 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. Due midnight before next class.

Research Paper Status Reports (10%)
Each month, you will turn in a summary of your progress. The summaries will consist of
what you did on your project and what your next steps will be. Please keep summaries brief—at most one paragraph each. You be turning them in under the Discussion Board. Please label them with your name, date, (Dr. Bruun, 2/28). Turn in one status report by the end of each month

**Research Paper (30%)**
You will write a paper with at least four references using APA format on a related topic to Interactive and Multimedia Activities in Mathematics or Science.

**Participation (10%) -** See Class Attendance Policy.

**B. Grading Scale**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<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>
</tr>
</tbody>
</table>

**IX. Course Schedule and Policies**

A. A tentative course schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/22</td>
<td>Introduction to Interactive and Multimedia Activities in the Classroom</td>
</tr>
<tr>
<td>2/5, 2/9</td>
<td>Games and activities presentations</td>
</tr>
<tr>
<td>3/4</td>
<td>Interactive Game Presentations</td>
</tr>
<tr>
<td>3/11</td>
<td>Spring Break</td>
</tr>
<tr>
<td>3/18, 4/1, 4/15</td>
<td>Manipulatives Presentations</td>
</tr>
<tr>
<td>4/25</td>
<td>Presenting Games and Activities at SUPCE, Saturday, 8:00 – 12:30</td>
</tr>
<tr>
<td>4/29</td>
<td>Individual conferences of rough draft</td>
</tr>
<tr>
<td>5/6</td>
<td>Final paper due</td>
</tr>
</tbody>
</table>

B. Class Policies

**Attendance/tardiness** Regular attendance is expected at all classes. There is a high positive correlation between consistent, punctual attendance and higher course grades. It
is virtually impossible to receive an A in the course if there are absences and/or lateness.

**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.

**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)**

There is no assigned textbook. Selected readings from the following professional journals will be incorporated into the course content:

*The Mathematics Teacher*

*Mathematics Teaching in the Middle School*

*Teaching Children Mathematics*

XI. **Bibliography**

The knowledge bases that support course content and procedures include:


doi:10.1016/j.compedu.2013.06.005


**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 UniversityRule13.02.99.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.

**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 zero.

**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. April 10 is the last day to drop a class with an automatic grade of “W” this term.

**Statement of Civility**

Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

**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.