



CIME 4334: TEACHING MATH in the MIDDLE GRADES

Spring, 2018

CIME 4334 is a required course for EC-6 AND 4-8 CERTIFICATION

College of Education, Department of CURRICULUM AND INSTRUCTION

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Class Format: This course will consist of lecture, discussion, small group work, and in-class and out-of-class activities designed to help candidates further their knowledge, skills, and dispositions in regards to teaching middle grades in the public schools.

Class day and time: R 9:00 – 11:50

Class location: The Woodlands Center, Room 255

Course Description: This course emphasizes making mathematics meaningful to children. Students are to make lesson plans of acceptable quality, to produce practical teaching aids, and to be able to integrate mathematics with other areas of learning. Experience is provided in the selection and evaluation of teaching methods unit and lesson planning, use of curriculum and audio visual materials, and the preparation of instructional materials appropriate for mathematics content and skills at different elementary and middle school grade levels. Students observe and teach math lessons in an elementary or middle school classroom. This course is an ACE course (Academic Civic Engagement) so that service to the community is a major component.

This course focuses on: 1) foundations of teaching mathematics with an emphasis on the national and state mathematics curriculum and teaching standards, 2) foundations of teaching methodologies related to best practices, hands on methods, and developmentally appropriate instruction, 3) planning, teaching, assessing, and modifying instruction for diverse learners, and 4) analysis of mathematics TEKS and state assessment system (STAAR) and instructional implications related to standards based education.

Textbooks: Handouts and/or PowerPoints via Blackboard

Course Objectives: The following objectives will be met during this course:

1. The candidate demonstrates factual knowledge relating to teaching in middle grades (terminology, classifications, methods, and trends)
2. The candidate applies fundamental principles, generalizations, and theories relating to teaching in middle grades.
3. The candidate applies course material to improve thinking, problem solving, and decision making in regards to teaching middle grades.
4. The candidate demonstrates specific skills, competencies, and points of view needed by teachers as professionals.

A matrix that aligns course objectives, activities, assessments, and standards can be viewed on Blackboard.

IDEA Objectives: The instruction in this course will address the following major objectives (as assessed by the IDEA course evaluation system):

Essential: Developing specific skills, competencies, and points of view needed by professionals

Important: Learning fundamental principles, generalizations, or theories

Course/Instructor Requirements:

Five (5) activities will be assessed during the course:

- 1) A mini lesson plan presented in class with a partner based on a provided scenario.
- 2) A complete mathematics lesson plan following the provided lesson plan format (based on your mini lesson plan).
- 3) A written reflection based on your observations of a single student in the field (student will be selected based on specific criteria).
- 4) A recorded lesson in the field and evaluation based on the methods evaluation tool.
- 5) Professionalism (based on participation, absences/tardies, field experience)

Rubrics will be given in Blackboard.

Course Outline

Assignments

Scenario Mini Lesson Plan Share Presentation – 50 points

You and a partner will prepare a math lesson and share with your section class. This lesson will include all components of a real lesson plan with accommodations based upon the scenario provided to you by the professor. Presentation time for each group is 10 minutes. A rubric of required elements will be posted on Blackboard but will include a loosely based version of the 5E model which includes engage, explore, explain, elaborate, and evaluate. You and your partner will also submit this lesson electronically to Blackboard (see Mathematics Lesson Plan below).

Mathematics Lesson Plan – 100 points

Design a mathematics lesson using the provided rubric to include all necessary elements. Note that this assignment is part of your scenario lesson share above and will be submitted electronically to Blackboard.

Student One-on-One Reflection – 100 points

With the implementation of RTI (Response to Intervention) in elementary and middle school classrooms statewide, it is imperative that educators understand and implement differentiated instruction in the classroom. Not only does differentiation ensure that each child is learning to his/her full potential, teachers are **legally required** to meet the IEP requirements of children who fall under the umbrella of special education as well as those who are identified “at risk.” Candidates will choose a child to “shadow” during one class day or during tutoring time. This child may be GT, have learning differences, or behavioral differences. The candidate will document what sorts of modifications/accommodations/incentives or extensions are in place and how well these interventions seem to be working with the child. The candidate will then develop new ideas that

could be used to assist the child's learning. To better understand expectations, a rubric will be posted on Blackboard.

Recorded Lesson and Evaluation – 100 points

In your field experience, you will be required to record one lesson of yourself teaching for at least 20 minutes. Once complete, you will watch yourself and evaluate your teaching and questioning strategies using the evaluation tool provided to you (see Blackboard). *Note: Your placement may be a science classroom, but the evaluation tool is not subject specific. You will be evaluating your teaching and questioning strategies.

Professionalism – 100 points

Your professionalism grade will be based on several factors including attendance (tardies/absences), following procedures (both in class and in the field), field experience feedback, and participation in class.

Grades

Learning Opportunities/Assignments	Points
Scenario Mini Lesson Plan Share Presentation	50
Mathematics Lesson Plan	100
Student One-on-One Reflection	100
Recording and Evaluation	100
Professionalism	100
TOTAL OF POINTS	450

Schedule

Date	Topics to be Discussed	Assignments Due
January 18th <i>Day 1</i>	Introductions Syllabus/Assignments Lesson Plan Template The “New” Math Educational Philosophies The Brain and Mathematics Learning	
January 25th <i>Day 2</i>	The Power of Mistakes and Struggle The Creativity and Beauty in Math Mathematical Strand: Numbers & Operations	
February 1st <i>Day 3</i>	Creating Mathematical Mindsets: The Importance of Flexibility with Numbers Mathematical Strand: Patterns & Algebra	
February 8th <i>Day 4</i>	Rich Mathematical Tasks Mathematics and the Path to Equity Mathematical Strand: Geometry & Measurement	
February 15th <i>Day 5</i>	From Tracking to Growth Mindset Grouping Assessment for a Growth Mindset Mathematical Strand: Probability & Statistics	
February 22nd <i>Day 6</i>	Teaching Mathematics for a Growth Mindset Mathematical Strand: Problem Solving	
March 1st <i>Day 7</i>	Lesson Shares	Mini Lesson Share Presentation due Thursday, March 1st, in class Mathematics Lesson Plan (based on mini lesson share) due Thursday, March 1st, by 11:59 pm
STUDENTS IN FIELD MARCH 7th – APRIL 27th		Student One-on-One Reflection paper due Sunday, April 8th, by 11:59 pm
		Recording and Evaluation due Sunday, April 29th, by 11:59 pm
May 3rd <i>Day 12</i>	Final Presentations	

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Student Guidelines

University Policies

- SHSU Academic Policy Manual-Students
 - [Procedures in Cases of Academic Dishonesty #810213](#)
 - [Students with Disabilities #811006](#)
 - [Student Absences on Religious Holy Days #861001](#)
 - [Academic Grievance Procedures for Students #900823](#)
- SHSU Academic Policy Manual-Curriculum and Instruction
 - [Use of Telephones and Text Messagers in Academic Classrooms and Facilities #100728](#)
 - Technology during instruction: INSTRUCTOR'S POLICY ON TECHNOLOGY USE DURING INSTRUCTION
 - Technology during exams: INSTRUCTOR'S POLICY ON TECHNOLOGY USE DURING EXAMS
 - Technology in emergencies: INSTRUCTOR'S POLICY ON TECHNOLOGY USE IN EMERGENCIES
- Visitors in the Classroom- Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance.

Attendance

Attendance in this class is mandatory and will be recorded each class session. Excessive absences and/or tardies in class or during field experience, regardless of excuse, will result in an overall reduction in the course professionalism grade.

Course Expectations

All out of class work is graded on content, grammar, punctuation, spelling, etc. Late assignments will be penalized twenty points per day that they are late. All out of class assignments should be typed (Times New Roman, 12 point font). All due dates will be given the first week of class. **No extra credit will be given.**

For each hour in class you will be expected to commit at least three hours outside of class. It is expected that if you enroll in this course, you can meet the time requirements.

Professionalism is expected in effort and attitude. This includes communication through technology during class time. It is expected that no contact with the “outside world” will be attempted or received during class. If unauthorized cell phone use occurs, your grade may be lowered one letter grade for each occurrence.

If individual assignments possess a striking similarity to another student’s work, a grade of F will be given for the course and a referral made to appropriate authorities.

Bibliography

<http://www.tea.state.tx.us> -- Texas Math Curriculum (TEKS)

<http://tea.texas.gov/student.assessment/staar/> -- Student Assessment (STAAR)

<http://www.nctm.org> --- PSSM, 2000, National standards for school mathematics (K-12) recommended by the National Council of Teachers of Mathematics (NCTM).

http://www.learningthroughlistening.org/Classroom_Teaching_Tools/Lesson_Plans/31/ [sign up for free access]

<http://school.discovery.com/lessonplans/k-5.html> [free lesson plan ideas with more details]

www.nctm.org/standards - information about national mathematics standards. Click on E-example. [Select: Principles and Standards for School Mathematics; Focal Points]



College of Education Information

Accreditation

The programs within the SHSU College of Education have the distinction of receiving accreditation and national recognition from multiple accrediting bodies. All educator certification programs, including teaching and professional certifications, have received ongoing accreditation from the Texas Education Agency ([TEA](#)). Additionally, the educator preparation program has been accredited by the Council for the Accreditation of Educator Preparation ([CAEP](#)-formerly NCATE) since 1954. Many of the educator preparation concentration areas have also chosen to pursue national recognition from their respective Specialized Professional Associations ([SPA](#)), signifying the program is among the best in the nation. The programs within the Department of Counselor Education have also received accreditation from the Council for Accreditation of Counseling and Related Educational Programs ([CACREP](#)).

Course and Program Evaluation

Near the end of the semester, students are asked to take part in the University's adopted course evaluation system, IDEA. The assessments are completed online and instructions are emailed to each student. Students' assessments of courses are taken and are systematically reviewed by the Dean, Associate Deans, Department Chairs, and individual faculty members. Only after the semester has completed are faculty members allowed to view aggregated results of non-personally-identifiable student responses.

The College of Education conducts ongoing research regarding the effectiveness of the programs. Students receive one survey in the final semester prior to graduation regarding the operations of the unit during their time here. A second survey occurs within one year following completion of a program, and is sent to students and their employers. This survey requests information related to students' quality of preparation while at SHSU. Students' responses to these surveys are critical to maintaining SHSU's programs' excellence.