Teaching Methods in Science Part 2 (3 semester hours of credit)

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OFFICE: Montgomery 452
OFFICE HOURS: Mondays, 9:00 to 11:00 AM; Wednesdays, 9:00 to 11:00 AM; or by appointment
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INSTRUCTOR: Dr. Michael Eads
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COURSE OBJECTIVES:

1. SHARE A PHILOSOPHY OF SCIENC EDUCATION: The student will discuss their philosophy of education including their views about teaching controversial topics, in a general high school/middle school science class.

2. THE SCIENCE CLASSROOM: The student will (1) describe how they would construct a learning environment for a laboratory based science classroom, which non-verbally transmits course objectives and instructional intent, just by entering the room and (2) develop a set of classroom guidelines, including discipline strategies and a comprehensive classroom safety plan.

3. GOALS AND OBJECTIVES: The student will develop his/her own core subject goals and objectives for a one year long course in the life sciences or physical sciences at the high school/middle school level. In this process, students will become aware of both national and state standards for science education and demonstrate their ability to effectively address these standards in their teaching.

4. LESSON PLAN DEVELOPMENT: The student will demonstrate the ability to develop lesson plans that incorporate use of a variety of hand-on/minds-on instructional activities appropriate for the teaching of the life sciences or physical sciences. In this process, students will become aware of both national and state standards for science education and demonstrate their ability to effectively address these standards in their teaching.

5. DESIGN A UNIT: The student will develop a syllabus for teaching a typical unit for a high school/middle school course in the life sciences or physical sciences. In addition, the student will construct combined formal and informal assessments as part of the evaluation process for the class. In this process, students will become aware of both national and state standards for science education and demonstrate the ability to effectively address these standards in their teaching.

6. PRESENT LESSONS: The student will plan and deliver in an appropriate manner, a series of lessons. The details of which will be discussed during class in the near future.


ATTENDANCE: University policies will be followed for the course. In addition, students are expected to make the transition from "taking courses" to "being a professional". Treat attendance as any professional would. Details of the attendance policy for the course will be discussed in class.

CLASS SCHEDULE

Aug 30 - WEEK 1
Course Introduction
Discussion: The Science Classroom: Construction of the Learning Environment and Safety
Discussion: Classroom Management Strategies and Guidelines
Discussion: Introduction to the Anticipatory Set
Assignment 1: Design Classroom Guidelines (Due Sept. 6, 2012)
Assignment 2: Safety Survey (Due Oct. 4, 2012)
Assignment 3: Anticipatory Set (Due Sept. 13, 2012)
Reading: Describing 16 Habits of the Mind, by Costa and Kallick
Reading Text: Chapters 1, 2, & 21
Prepare for the Safety Test – date TBA

Sept 6 - WEEK 2
Discussion: Learning Goals for Teaching Science
Discussion Writing Objectives
Activity: Write objectives for subject areas in science
Discussion: Lesson/Unit Planning; a review
Assignment 5: Design a Unit (Due Nov. 8, 2012)
Read and Review INTASC Principles
Reading Text: Chapters 3, 4, 7, 8, & 12

Sept 13 - WEEK 3
Discussion: Lesson Plan Development and the Standards
Activity: Student Anticipatory Set Presentations
Assignment 4: Develop an inquiry based lesson with assessments, aligned to the standards. (Due Sept. 27, 2012)
Discussion: Formal and Informal Assessments
Reading Text: Chapters 9, 13, 14, 16, 17, & 18

Sept 20 - WEEK 4
Student Teaching Presentations: Two students present 45 minute lessons
Feedback on Teaching Presentations
Assignment 5: Research an article on “Academic Language” and write a reflection paper.
Reading: Chapters 19, 20, & 22

Sept 27 thru Dec 6 - WEEK 5 thru 15 45 min Lesson Presentations

Nov 22 - THANKSGIVING (NO CLASS)

Dec 16, 2012 Commencement and End of Semester
ATTENDANCE POLICY AND COURSE EXPECTATIONS

Expectations
We will set a standard of professional comportment, in which professional behavior, including attendance, dress, participation, courtesy, and the submission of assignments by the due date are both expected and required. Professional demeanor, of the type that we expect in the educational workplace, is required at all times in this course. Please silence your cell phone and other electronic devises during class.

Attendance
Should you need to be late, leave early, or miss a class, please notify me in writing (email is fine) as much in advance as possible. Failure to notify me in writing of an absence will be regarded as an unexcused absence and there will be no make-up assignments, quizzes or tests. Due to the nature of the course and the work involved, attendance is very important. If you must miss class it is your responsibility to get the notes from a classmate and to find out what went on in class during your absence.

In addition, 10 attendance points will be given for each class period that you fully attend and participate in. If you are late or have to leave early, only 5 points will be awarded for the period. If you are absent, 0 points will be awarded for that period. There will be no make-up for lost attendance points.

Assignments
You will be expected to complete a number of assignments throughout the semester. There will be clear deadlines when these assignments must be handed in. Late assignments will receive half credit. Assignments that are one week or more late will not be accepted and a zero will be recorded in the grade book.
## ASSIGNMENTS, POINT VALUES AND DUE DATES

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<th>ASSIGNMENT</th>
<th>POINT VALUE</th>
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<tr>
<td>Assignment 1: Design Classroom Guidelines</td>
<td>20 pts</td>
<td>Sept 6, 2012</td>
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<td>Assignment 3a: Anticipatory Set</td>
<td>30 pts</td>
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<td>Assignment 3b: Anticipatory Set Self Evaluation</td>
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<td>Assignment 4: Inquiry Lesson Plan</td>
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<td>Assignment 5: Unit Plan</td>
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<td>Assignment 7a: Teaching Presentation 1</td>
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<td>Assignment 7b: Self Evaluation 1</td>
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<td>Assignment 8a: Teaching Presentation 2</td>
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**TOTAL POINTS POSSIBLE**: 750 pts

**GRADE SCALE**:  

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