

# ED5580-GK12 Graduate Fellows Course- Fall 2011

## INSTRUCTOR

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## MATERIALS

- *Annenburg Media* ([www.learner.org](http://www.learner.org))
- National Science Teachers Association ([www.nsta.org](http://www.nsta.org))
- *Michigan Department of Education* ([www.michigan.gov/mde](http://www.michigan.gov/mde))
- *Michigan Grade Level Content Expectations*, Michigan Department of Education ([www.michigan.gov/glce](http://www.michigan.gov/glce))
- *High School Course Content Expectations*, Michigan Department of Education ([www.michigan.gov/highschool](http://www.michigan.gov/highschool))
- *Michigan Environmental Education Curriculum Support Water Quality Unit*, Michigan Department of Environmental Quality 2005 ([www.michigan.gov/deq](http://www.michigan.gov/deq))

## INTENDED LEARNING OBJECTIVES

Student Learning (A commitment to student learning and achievement)

Graduate fellows will work with the classroom teacher to use appropriate classroom management techniques to ensure a safe and orderly environment that is conducive to learning.

Graduate fellows will be able to write and implement lesson plans and unit plans that will:

- Accommodate diversity and various backgrounds of students.
- Create learning environments that promote critical and higher order thinking.
- Engage students in inquiry based activities that address the grade level and /or the high school content expectations
- Use high expectations for optimal achievement to foster excellence in all students.
- Address state and national standards in the relevant subject area.

Assessment of Learning (The ability to determine what students have learned)

Graduate fellows will be able to:

- Prepare student assessments based on learning goals and that allow students to communicate what they know.
- Evaluate student progress in useful and meaningful way.
- Use multiple approaches to appropriately assess student abilities and needs.

Professional conduct

Graduate fellows will be able to:

- Accept teaching as a lifelong learning process and continue efforts to develop and improve.
- Accept the role as a professional scientist and educator in the classroom and the community.
- Demonstrate effective communication skills
- Demonstrate the ability to interact effectively with K-12 students

## **COURSE REQUIREMENTS**

### **A. SUBMIT THE FOLLOWING: (Specific requirements will be provided)**

**Assignments: (60%)** Specific requirements and grading rubric will be provided for each assignment. Due at beginning of the class period indicated on the assignment.

**Unit of instruction Outline: (20%) Due 12/12/11** Using the guidelines provided, prepare an outline for a unit of instruction that is a minimum of 5 lessons. This unit you will teach in your assigned classroom during the fall of 2012. The unit should provide enough instruction and activities to effectively address the learning objectives. The outline will contain the learning objectives, content expectations addressed, instructional plan, and assessment plan for the unit. The specific lessons that make up the unit will be created during spring and summer of 2012.

**Participation in Class Discussion: (20%)** Topics of classroom discussions will be based on your experiences or assigned readings from periodicals, web or your textbook. You should be ready to participate fully in these discussions.

Late assignments will be accepted but **points will be deducted for each day (weekends included) past the due date.**

### **B. ATTENDANCE**

Attendance will count towards your overall grade. You are expected to attend all class sessions and participate in all classroom discussions. If you miss a class you are still responsible for all missed work and assignments. An absence does not provide an excuse for not turning in an assignment that is due that day. If you are absent when an assignment is due, it is your responsibility to find a way to turn in that assignment on time.

### **C. TOPICS FOR SESSIONS**

#### **Topic 1: Creating a Learning Community and Classroom Management**

- Learning community and positive expectations
- Characteristics of an effective teacher
- Professional conduct
- Procedures and rules

#### **Topic 2: Standards and Learning Objectives**

- Course Content Expectations and Grade Level Content Expectations
- Common Core State Standards- Math and English Language Arts
- Teaching and Learning Standards
- Assessment Standards
- High School Graduate Requirements
- MEAP and MME
- Science Companion Documents

#### **Topic 3: Fundamentals of Instructional Planning**

- Instructional planning and resources
- Creating learning objectives
- Components of a teaching unit.
- Components of an effective lesson

#### **Topic 4: Student Evaluation**

- Backward Instruction Design (*Understanding by Design*, Wiggins and McTighe)
- Formative and summative evaluation
- Evaluation plan for a unit
- Types of formative assessments

#### **Topic 5: Direct Instructional Strategies**

- Types of direct instruction
- Questioning techniques
- Guided practice and homework.
- Providing effective feedback

#### **Topic 6 Inquiry based instruction**

- Components of inquiry
- Implementing inquiry in the classroom
- Questioning techniques
- Assessing student learning in inquiry activities.

#### **Topic 7: Conducting Field Trip Experiences**

- Preparation for a field trip
- Management of students
- Safety concerns
- Integrating the field experiences and class-work.

#### **Topic 8: Formative Assessment**

- Performance based assessments
- Instructional rubrics
- Writing strategies

### **D. ASSIGNMENTS**

#### **Assignment 1: Creating Learning Objectives – Due 9/19/11**

Choose a content expectation pertaining to watershed science. Deconstruct the expectation into at least three specific learning objectives.

#### **Assignment 2: Creating Inquiry Learning Objectives- Due 9/26/11**

**P1.1h** *Design and conduct a systematic scientific investigation that tests a hypothesis. Draw conclusions from data presented in charts or tables.* Deconstruct the expectation above into at least five specific learning objectives.

#### **Assignment 3: Micro-lesson One – Due 10/17/11**

Revise a MEECS lesson to incorporate more elements of inquiry and writing strategies. You will teach the introduction of this lesson. Please turn in a complete written lesson plan and all student sheets. The plan should follow the format of the Inquiry Lesson Plan Template. The micro-lesson will be videotaped and you will write a reflection on your presentation.

#### **Assignment 4: Reflection Paper on Micro-lesson One – Due 10/31/11**

Write a reflection paper on the your implementation of a micro-lesson delivered on 10/17/11. The paper should identify the strengths and weaknesses in the delivery of the micro-lesson. Then it should provide constructive suggestions for improvement that relate to the identified weaknesses. You should also provide in the reflection paper, what you learned from delivery of the micro-lesson.

**Assignment 5: Micro-lesson Two - Due 11/7/11**

Create a performance assessment that allows students to apply the learning objectives and communicate what they know in an authentic way. You will create a performance assessment plan and an instructional rubric that indicates the criteria and standard of performance for the products produced. The micro lesson will be the presentation of the performance assessment and instructional rubric to your students.

**Assignment 6: Reflection Paper on Micro-lesson Two- Due 11/14/11**

Write a reflection paper on the your implementation of a micro-lesson delivered on 11/7/11. The paper should identify the strengths and weaknesses in the delivery of the micro-lesson. Then it should provide constructive suggestions for improvement that relate to the identified weaknesses. You should also provide in the reflection paper, what you learned from delivery of the micro-lesson.

**Assignment 7: Micro-lesson Three- Due 12/5/11**

Create a lesson that involves students in an inquiry learning experience. You will be teaching the introduction to the lesson. The lesson plan should follow the format of the Inquiry Lesson Plan Template. Please turn in the complete written lesson plan and all student sheets. The micro-lesson will be videotaped and you will write a reflection on your presentation.

**Assignment 8: Reflection Paper on Micro-lesson Three- Due 12/12/11**

Write a reflection paper on the your implementation of a micro-lesson delivered on 12/5/11. The paper should identify the strengths and weaknesses in the delivery of the micro-lesson. Then it should provide constructive suggestions for improvement that relate to the identified weaknesses. You should also provide in the reflection paper, what you learned from delivery of the micro-lesson.