

# University of Detroit Mercy

## COURSE SYLLABUS

Division: College of Liberal Arts Program: Teacher Education

Course: EDU 441 Elementary Science Education

Course Cr. 2 credit hours Term dates: Jan.12-April 27, 2006

Term/Year: Winter/2006 Course Location: CF Room 234

Time: Thursdays, 5:00 p.m. - 6:40 p.m.

Instructor: Oscar Eban Abbott E-mail Address: oeaarts-udmeyahoo.com

Office Hours: Arranged Telephone No. 313-702-5038

**Course Description:** This course is designed to provide hands-on, laboratory experiences in teaching elementary/middle school science. Science content and pedagogy skills will be explored. The use of technology is embedded in course activities. Current trends in science education will be discussed.

**Course Objective:** Students will be expected to begin to develop skills necessary for successful teaching and demonstrate critical teaching competencies. Some of the competencies are to develop:

- interest in teaching science at the elementary or middle school level with a focus on content integration
- understanding and use of the Michigan Grade Level Expectations for science
- appropriate classroom management skills and expectation that will facilitate program goals
- demonstrate understanding of basic content, processes and attitudes of science education
- understanding multiple ways of assessing students and related reporting of achievement

- understanding and conduct scientific inquiry activities
- understand and demonstrate both pragmatic and theoretical framework to teaching science
- understand and demonstrate the use of technology to support science
- understand the three branches of science.
- plan effective lessons that will engage learners
- review child development research and implications for teaching science
- demonstrate the ability to critique science related materials and equipment
- understand and use the achievement of minority contribution to the field of science.

**Required Text:**

Sherman, S. & Sherman, R., (2003), Science and Science Teaching: Methods for Integrating Technology in Elementary and Middle Schools, 2<sup>nd</sup> ed. Houghton, Mifflin, New York: NY.

**References:**

Brooks, J and Brooks, M., (1993), The Case for Constructivist Classrooms.  
 Alexandria: VA, Association for Supervision and Curriculum Development.  
 Victor, E. & Kellough, R. D., (2000) Science for the Elementary and Middle School,  
 New Jersey: NJ, Prentice- Hall Inc.  
Benchmarks for Science Literacy, (1993), Association for the Advancement of Science,  
 Oxford Press.

**Statement of Professionalism**

All pagers and cell phones should be turned off or placed on vibrate. The learning environment will be respected at all times. You are to respect the learning environment at all times.

**Assignments and Requirements**

Study the required texts, lecture notes, and related resource materials. Complete all assignments in a timely manner. Do not ask for extensions.

- ∞ Research Journal Reviews- Two research journal reviews will summarize current (10 points)
- ∞ Assessments- Three assessments will cover information presented in the

- recommended textbook and class discussions. (30 points)
- ∞ Oral Presentation- Develop and deliver 25 minute interactive presentation demonstrating an effective teaching strategy is required for this course (20 points)
- ∞ Develop a Science Resource File ( with at least 25 entries) (15points)
- ∞ Attendance- 95 % attendance rate is required. (5 points)
- ∞ Develop a mini science unit on a given topic (20 points)

**Evaluation and Grading:**

The College of Education faculty members strive to implement assessment measures that reflect a variety of strategies in order to evaluate a student’s performance in a course. For graduate students, B grades will be awarded for satisfactory completion of all assignments and A grades will be reserved for outstanding performance. Please note there is a distribution of grades A to E in the College of Education, including pluses and minuses. **All** assignments must be typed unless otherwise noted. Use 12 point font for assignments. Student work must be original. A student’s work that indicates plagiarism will refer to the Dean’ Office for review. Review the UDM’s policy on plagiarism.

Scale: 100-95 A 94-90 A- 89-85 B+ 84- 80 B 79-75 C+ 74-70 C 69- NP

**Class Policies:**

Students will be punctual, and maintain regular attendance. Absences and tardiness will affect your grade. Students who have other commitments during this course, that may impact attendance, should withdraw. This course is offered each semester. Do not ask for concessions regarding attendance.

Your grade will be compiled from these categories:

- Assessments ( 3) 30 points
- Research Journal Reviews ( 2) 10 points
- Mini Unit Plan 15 points
- Oral Presentation 20 points
- Resource File 15 points
- Attendance/ Participation 5 points

Max. Points- 100

Course Requirements: Students who do not officially withdraw from the course before the University’s official drop deadline will receive an incomplete grade.

### **Class Schedule - DRAFT**

<b>Date</b>	<b>Topic</b>	<b>Assignments</b>
Jan. 12	Overview	
Jan. 19	Science and Technology	Chapter 1
Jan. 26	Instructional Technology Basics	Review #1 Chapter 2
Feb. 2	How Children Learn	Chapter 3
Feb. 9	Inquiry and Discovery	Chapter 4
<b>Feb. 16</b>	Using Science Processes	Review #2 Chapter 5
Feb. 23	Planning Lessons	Chapter 6
March 2	Science in the Diverse Classroom	Chapter 7
March 9	Spring Break	
<b>March 16</b>	Real World Connections	Chapter 9
March 23	Project Based Learning	Chapter 10
March 30	Collaboration and Cooperation	Chapter 8
April 6	Designed- Based Learning	Chapter 11
April 13	Curriculum Integration	Chapter 12

**April 20**

Presentations

April 27

Presentations and Final Session

The instructor has the right to made modifications as needed.

**Bold dates - quiz will be given**

