

ED 3510 (2 credits) & ED 3511 (1 credit)

Communicating Science ~ Fall Semester 2007

Course Syllabus

Instructor: Joan Chadde, Education Program Coordinator
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Office hours: M-F 1-5 pm, or by appointment

Prerequisites: Open to all majors and class levels, some pre-requisites necessary if used to meet General Education requirements.

Class Location: 202 Dillman Hall

Course Objectives

This course will prepare students for making both classroom and community presentations as professionals in the work place. Students will make presentations in K-8 classrooms at evening Family Science Nights conducted at area elementary schools.

Classroom lectures will highlight the rationale for interacting with schools and communities as a professional, presentation skills, effective teaching techniques, learning styles, classroom management techniques, and model hands-on learning techniques. Students will have access to the Center's educational resources, materials, and activity guides.

Course Credit

Completion of ED 3510 is 2 semester credits. ED 3510 is approved for the Science, Technology & Society general education distribution list (applies to undergraduates only).

Follow-up course sequence: Students can repeat ED 3510, by taking ED 3511 for a maximum of two times. Each term that ED 3511 is taken, students are required to develop two new lesson plan presentations and deliver them at 5-6 family science nights. ED 3511 is approved for the Science, Technology & Society general education distribution list (applies to undergraduates only).

Resources

Michigan High School Science Expectations
<http://mi.gov/mde/0,1607,7-140-42814---,00.html>

Course Schedule (will be distributed in class)

- 1) ED 3510 will meet on Tuesdays from 7:00-9:00 PM in 202 Dillman Hall, unless a Family Science Night is scheduled.
- 2) Students attend one family science night as a presentation assistant. Then students will give presentations at 7 Family Science Nights that are held from 6:00-7:30 PM or 6:30-8:00 PM on TUESDAY evenings. Transportation to the school (in an MTU van), and dinner on-site at the school, is provided. **On most Family Nights, students should expect to be off-campus from approximately 5:00-9:00 p.m. A few science nights will require a 1-1/2 to 2 hour travel time (one-way); the longest time off campus is from 4:30-11:00 pm.** A list of Family Science Night dates, times, and locations are in the course schedule.

- 3) Students in ED 3511 (1 credit) who are repeating the course will be required to develop two new lesson plans. Students enrolled in ED 3511 **only attend class to practice their presentations and the last class.**

Course Requirements (350 points)

Class Attendance (20 points)

Assignment #1: Read *three* NSTA position statements on elementary science education, parental involvement, and informal science. Write a one-page reflection (single space) describing whether your K-8 science education incorporated many of the recommendations made in these 3 position statements. How did your experiences during elementary school, contribute to your attitude, interest, and understanding of science today? (10 points)

Assignment #2: Students identify activities to present to two of the following age groups: K-2, 3-4, or 5-6 during a 40-minute family science night. At least two **different** sources (activity guides, internet, Science & Children journal, faculty, etc.) should be consulted. The activity selected for each grade grouping should be attached (unless taken from a book in the Center office) and the complete reference for the source of each activity listed on the form provided. (10 points)

Assignment #3: Prepare a 40-minute lesson plan using the lesson plan outline provided in class. (40 points)

Assignment #4: Present at 7 Family Science Nights (20 points/presentation x 7 = 140 points)

Assignment #5: Prepare a one-page self-critique of your presentation following **each** Science Night. (10 points/presentation x 7 = 70 points)

Assignment #6: Prepare a *SECOND* lesson plan by: exchanging lesson plans with someone else in the class, developing a new lesson plan, or adapting a lesson plan from previous science nights. (20 points)

Assignment #7: Prepare one-page reflection that discusses "how this presentation/teaching experience will contribute to my academic and professional career." (20 points)

Complete a criminal conviction statement prior to working in schools.

Grading Criteria

Assignment #1 (10 points)

1. Did student show familiarity with the three NSTA position statements on elementary science education, parental involvement, and informal science? (2 points)
2. Did student provide examples of their personal experience with elementary science, parental involvement, and informal science? (3 points)
3. Was their depth to the writing? (2 points)
4. Did student draw a conclusion about what experiences during their elementary years contributed to his/her attitude, interest, and understanding of science today? (3 points)

Assignment #2 (10 points)

1. Identify an age-appropriate activity for EACH of the following age groups: K-2, 3-4, and 5-6. (4 points)
2. Consult a minimum of 2 different sources. Possible sources of activities include: internet, activity guides, faculty, journals, teachers. Provide complete web, book, or journal bibliography for each source. (2 points)
___ 0 – No sources listed.
___ 1 – Only one type of source correctly listed.
___ 2 - Two sources listed with complete bibliographic reference provided.
3. Content standards are listed correctly for each activity. (4 points)
___ 0 – No content standards listed.
___ 2 – Content standard listed correctly for only one activity.
___ 4 - Content standards listed correctly for both activities.

Assignment #3 – Develop ONE Lesson Plan (40 points) – see attached rubric

Assignment #4 - Lesson Plan Presentation – see attached form (20 points/presentation)

- a) **Delivery** – displays enthusiasm for subject; actively engages participants; stimulates interest in topic amongst participants; contains clear assessment of what was learned.
- b) **Presentation skills** - maintains eye contact and voice control, animated delivery, moves around room, interacts with students/parents.
- c) **Time management** –manages time well to achieve lesson objectives.
- d) **Audience/classroom management** – is clearly in control of students; responds to questions easily; manages disruptions and distractions; engages both students and parents.
- a) **Materials management** – activity supplies and equipment are used safely; distributed efficiently; properly cared for, and returned to the Center in a clean, organized condition.

Assignment #5 — Presentation Self-critiques – see attached rubric (10 points each)

Students honestly evaluate their presentation delivery after each Family Science Night and *provide examples* to support their evaluation

Provides specific examples of presentation’s strengths.	0	1	2
Provides specific examples of presentation’s weaknesses.	0	1	2
Writing shows sign of personal reflection and suggests ways to improve presentation/lesson.	0	1	2
Reflection addresses several of these topics: introduction, objectives, parental involvement, classroom management, and students’ & parents’ response to lesson presentation.	0	1	2
Overall organization, grammar, spelling, readability.	0	1	2

Points _____/10 points

Assignment #6 — Develop SECOND lesson plan – same grading criteria as Assignment #3 (20 pts)

Assignment #7 — Final Reflection (one-page) – students assess the value of the course experience to their future professional and academic careers and provide specific examples of what they have learned.

Writing shows personal reflection	0	2	4	6	8
Provides specific examples	0	2	4	6	
Overall organization	0	2	4	6	

Points _____/20 points

Grading Policy

- ◆ A student’s grade may go down ½ letter grade for each day that an assignment is late, *unless arrangements are made with the instructor.*
- ◆ Students will receive an “*Incomplete*” for their final grade, until all equipment and supplies used in activities are returned to the Center in a clean, properly organized condition, and all activity boxes are disassembled.