

**ELE3290.004-Science in the Elementary School
Spring 2007**

Instructor: Denise Reid
Location & Time: Buzzard 2430 T & TH 10:00-11:40 a.m.
Office: BB2211
Office Hours: Tuesday: 2:30-3:30 p.m.
Wednesday: 9:00 a.m.-12:00 p.m.
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National Science Education Standards <http://www.nap.edu/readingroom/books/nse/html/>

Illinois Learning Standards <http://www.isbe.net/ils/standards.html>

National Science Teachers Association <http://www.nsta.org>

The NSTA Learning Center <http://learningcenter.nsta.org/>

Illinois Science Teachers Association <http://www.ista-il.org>

CEPS Theme: Educators as Creators of Effective Educational Environments

Course Description: Science in the Elementary School. (3-1-3). Exploration of the nature, processes, and products of science and their relationships to society, the world, and the school curriculum. Field-based experiences will be in conjunction with Elementary Education 4000.

Prerequisites: ELE3000 and six semester hours in science. Concurrent enrollment with ELE3340 and ELE4880 is recommended.

Purpose of the Course: To involve pre-service students in the process of learning about the nature of science; a sample of its content and the methods used to teach the content. Using theories of how children learn as a basis for instruction, the students develop their skills at teaching science processes through discovery, guided discovery, and inquiry lessons. Students will also understand the importance of assessment and evaluation in order to develop appropriate instruction for students. *Students will integrate technology in their lessons, projects, and science unit.*

Outcomes for all ELE Classes

Students enrolled in this course will:

- Develop a desire of lifelong learning in students and personally display one's own desire for lifelong learning, including self-evaluation skills.
- Demonstrate effective communication skills.
- Design instruction to develop and utilize the cognitive processes by which pupils learn.
- Manage the classroom to optimize academically engaged time.
- Perform successfully within the social and political contexts of schools and community.
- Demonstrate knowledge of facts, and an understanding of fundamental principles, ideas, and relationships among various knowledge domains.
- Demonstrate knowledge of past and present developments, issues, research, and social influences in the field of education.

Outcomes specific to this course

Students enrolled in this course will:

- Develop a positive attitude toward providing meaningful experiences in science for all students.
- Develop an understanding of the nature of science, the learner, and the learning environment.
- Develop a working knowledge of appropriate science learning and hands-on experiences for children.
- Effectively utilize various types of materials, resources, and media to engage children in meaningful science experiences.
- Learn the importance of assessment and evaluation in planning effective instruction to meet the needs of the diverse learner.
- Plan, implement, and assess science instruction for elementary students.
- Become familiar with the Illinois Learning Standards and the National Science Education Standards for Science.
- *Integrate technology in lessons, projects, and units.*

The Illinois State Board of Education

- Illinois Professional Teaching Standards <http://www.isbe.net/profprep/PDFs/ipts.pdf>
- Content Area Standards for Educators <http://www.isbe.net/profprep/macstandardrules.htm>

Course Text

Martin, R., Sexton, S., Wagner, K., & Gerlovich, J. (2005). *Teaching science for all children* (4th ed.). Boston: Allyn and Bacon.

Carin, A. A., Bass, J. E., Contant, T. L. (2005). *Activities for teaching science as inquiry* (6th ed.). Upper Saddle River, NJ: Pearson, Merrill Prentice Hall.

Grading Scale

92% - 100%	= A
82% - 91%	= B
72% - 81%	= C
62% - 71%	= D
61% or below	= F

Course Assignments and Expectations

1. **Active Participation (30 points)** Most lessons involve activities of some type that are difficult to make up if absent, so regular attendance is expected. Attendance will be taken daily. Participation includes the following: being in class on time (3-5 minutes early), looking at those who are speaking, working cooperatively with group members, being prepared for class by reading assignments, and being actively involved in labs and discussions. If you are tardy be sure to check with the instructor so that you are not marked absent. If an emergency arises please notify the instructor if you are unable to attend class by leaving a message on voice mail or e-mail. Five points will be deducted for each absence.
2. **Copy, read, highlight, and write reflective comments in booklet on reserve in library (10 points)** How to Ask the Right Questions by Patricia Blosser
3. **Content Area Readings** Select an article from a *professional journal* that corresponds with the relevant topic. Topics will be **constructivism, misconceptions, inquiry (teaching science), and authentic assessment**. Copy, read, highlight, and write reflective comments in the margins. Be prepared to discuss the topic in class. **(60 points-15 points each)** Follow the guidelines in this syllabus.
4. **Process Skills Quiz (31 points)**
5. **Illinois Learning Standards Assignment (10 points)**
6. **Science Demonstration Show (Group/Individual)** You will send a copy of the demonstrations that your group presents to the members of the class through WebCT **(50/28 points)**
7. **Group Demonstration Lesson iMovie (30 points)**
8. **Midterm (75 points)** The midterm will be taken online thorough WebCT.
9. **Two Week Science Unit (165 points)** The unit will be a group project with some portions being completed by the whole group and some portions being completed by each group member.
10. **Science Notebook (25 points)** Organize your science binder to include a section for labs. (Follow the criteria in your packet.)
11. **Final (75 points)** The midterm will be taken online thorough WebCT.

Refer to course calendar for due dates and assignments.

All assignments must be turned in on time. All assignments must be completed in an *exemplary* fashion in order to receive an "A". Assignments and scoring rubrics will be discussed in class when first assigned. After this initial discussion the instructor will be glad to discuss assignments or answer questions during office hours.

Grading system for Content Area Readings:

15 points: Essential ideas for understanding the topic are highlighted throughout the whole chapter, booklet, or article-including the sample lesson or any appendices, the comments in the margins show that you were **thinking** about the ideas that were presented and not just repeating the idea, and your name is on the article. Written response is well written and reflects the key idea learned from reading this article.

14 points: Important ideas are highlighted throughout entire chapter, booklet, or article, but comments are not truly reflective-they just restate the ideas presented, and your name is on the article. Written response reflects key idea presented in the article.

13 points: Few ideas are highlighted throughout the whole chapter, booklet or article, and there are few comments written in the margins. Written response is a summary of the article.

12 points: Few ideas are highlighted throughout the chapter, booklet, or article and there are no comments written in the margins. Written response is too general.

Bibliography