CI 426
Introduction to Teaching Elementary School Science
Spring 2016

Instructor: Euginia Nyirenda
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Office Hours: Tuesday & Thursday (10:30am -12:30pm) & by appointment on other days
Venue: Pulliam Hall Room 304
Credit: 3 hours
Time: 1-3:50pm, Thursday

Course Description:
This course is designed to provide you with the opportunities to obtain knowledge and develop skills that are needed to teach an activity-based science classroom. Therefore, a great deal of class time is devoted to “hands-on” activities that deal with science process skills, e.g., observing and experimenting, and how to teach these skills. You will also have an opportunity to develop, design, and teach lessons using various strategies to your peers.

Course Activity Alignment with Standards:
This course has been aligned with the Illinois Professional Teaching Standards, National Science Education Standards, National Educational Technology Standards for Teachers (NETS) and Illinois Science Learning Goals.

Evaluation Procedures:
Approximately 340 points will be possible to accumulate via the following:
1. In-class activities – 15 class times x 4 points = 60 pts
2. Individual Lesson Plan = 30 pts
3. Group Lesson Plan = 30 pts
4. Group Lesson Presentation = 10 pts
5. Post Peer Lesson Tests (3 tests x 20 pts) = 60 pts
6. Midterm Exam = 50 pts
7. Final Exam = 100 pts

Grading Procedures:
Each evaluative measure will be assigned a point value. Your final course grade will be determined by the number of points accumulated during the semester minus any points for absences.
90% to 100% = A
80% to 89.99% = a B,
70% to 79.99% = a C,
60% to 69.99% = a D,
Below 60% = an F.
Attendance:
Attendance will be taken in each class session. Every activity done in class will be graded and given points that will count towards your final score. You will need to be present and to participate in activities and discussions in order to get the most out of the course. Please be on time for each class session. For each unexcused absence from lab sessions, five points will be subtracted from your total points at the end of the semester. Also, each time you are tardy, you will lose one point. Excused absences include: religious holidays, illness (a note from your doctor, health service appointment slip, or a prescription will be needed), and deaths in the family. After more than two absences of any type (excused and/or unexcused) from the laboratory sessions, I may ask you to drop the course.

Participation:
Your participation during both activities and discussions becomes an essential part of the class. Every activity done in class will be graded and given points that will count towards your final score. Demonstrate the commitment, interest, leadership, and enthusiasm that you will need as an effective science teacher. Please share your thoughts and ideas during discussions and cooperate with your classmates during activities. In these ways, each person benefits from the knowledge and skills of the entire class.

A Note on Academic Integrity:
This course includes accessing, analyzing and synthesizing information. Careful attention must be made to produce your own original work and to give credit to the ideas of others. Please be aware that plagiarism includes taking credit for ANYTHING created, developed, and/or discovered by another person, including (but not limited to) words, sentences, or ideas. The SIUC Student Conduct Code includes the following possible penalties for plagiarism: failing grade for the work in question; failing grade for the course; revocation of a degree; and other disciplinary actions, including reprimand, censure, probation, or suspension.

Special Needs Learners:
Students with special needs are encouraged to discuss these with the instructor. Every effort will be made to make the accommodation(s) necessary to ensure a positive learning experience. Students may also want to contact Disability Support Services, Woody Hall B-150 (453-5738 voice/453-2293 TTY/453-5700 fax) to find out what help they offer.

Emergency Procedures: This is an on-campus course and it is important that you read and understand SIUC safety and emergency procedures. Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT’s website at www.bert.siu.edu and the Department of Safety’s website www.dps.siu.edu (disaster drop-down), and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay
with your instructor during an evacuation or sheltering emergence. The Building Emergency Response Team (BERT) will provide assistance to your instructor in evacuating the building or sheltering within the facility.
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<th>Week</th>
<th>Day/Date</th>
<th>Topics, Activities, Homework &amp; Assignments</th>
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| 1    | Thursday Jan 21 | - Introductions  
- Overview of syllabus and schedule  
- Opening of files  
- Activity 1: Penny and Water  
- Who is a scientist?  
- Home Work: Watch ‘October Sky’ |
| 2    | Thursday Jan 28 | - Highlights on October Sky  
- Scientific Attitudes in ‘October Sky’  
- Activity 2: Presentations on Pros and cons of the characters  
- Activity 3: Nature of science puzzle  
- What is science?  
- Ways of knowing  
- Reasons for teaching science |
| 3    | Thursday Feb 4  | - Activity 4: Scientific Observations  
- Classifying observations as qualitative and quantitative  
- Activity 5: Variable identification and Description  
- Graphing (Pie Chart, Bar & Line Graphs) |
| 4    | Thursday Feb 11 | - Activity 6: Plane activity  
- Application of the variables  
- Basic and Integrated Science Process Skills  
- Activity 7: Pendulum |
| 5    | Thursday Feb 18 | - Inferring Process Model  
- Activity 8: Making inferences from observations  
- Classification  
- Activity 9: Classifying different objects |
| 6    | Thursday Feb 25 | - Introduction to the Learning Cycle  
- Activity 10: Identifying the different parts of the Learning Cycle  
- Activity 11: Select a topic and show how it can be taught using the Learning Cycle |
| 7    | Thursday Mar 3  | - Inquiry  
- Activity 12: Foam Activity  
- Midterm Exam |
| 8    | Thursday Mar 10 | - Lesson Planning  
- (Start working on your Individual Lesson Plan)  
- Divide Class into Teaching Teams  
- Lesson Planning Session |
<p>| 9    | Thursday Mar 17 | No Class – Spring Vacation (March 12- March 20)              |</p>
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| 10| Thursday Mar 24 | • Teams present Learning Cycle Lessons  
|   |            | • *Group Lesson Plan Due*                           |
| 11| Thursday Mar 31 | • Post Peer Lesson Tests  
|   |            | • Overview of the Lessons                           |
|   |            | • Black Boxes  
|   |            | • Activity 13: Activity on Black Boxes               |
| 12| Thursday Apr 7  | • Electricity  
|   |            | • Activity 14: Activity on Electricity               |
| 13| Thursday Apr 14 | • Magnetism  
|   |            | • Activity 15: Activity on Magnetism                |
|   |            | • *Individual Lesson Plan Due*                        |
| 14| Thursday Apr 21 | • Density  
|   |            | • Activity 16: Activity on Density                   |
| 15| Thursday Apr 28 | • Activity 17: Independent Activity                  |
| 16| Thursday May 5  | • Course Review  
|   |            | • Course Evaluations                                |
| 17| Mon-Friday May 9-13 | *Final Exams, Thursday, May 12 (12:30-2:30pm)*  
|   |            | The Exam will be held in Pulliam 304 at the scheduled time, not before or after. |