ED 4314 Science: Instructional Strategies for the Elementary and Middle School Teacher Course Syllabus Fall 2009

Instructor: Dr. Christine Purkiss
Email: christine.purkiss@angelo.edu
Office: CARR EFA 117 – Tel: 942-2052 ext. 266
Office hours: M & W: 10:00-11:00AM; 2-3 PM
T & R: 10-12noon; 3:30-4:30PM
F: by appointment
Class Times: Tuesday/Thursday 12:30 – 1:45PM or 2 – 3:15PM
Room: Carr 112

Course Description

This field-based course emphasizes the integration of research and theories regarding the processes of learning science. The major science processes such as observing, experimenting, measuring, classifying, analyzing, interpreting, sequencing, recognizing properties and patterns, and inferring will be used with students in a public school setting. The TEKS addressing basic scientific information, methods, and materials will be included.

Required Reading:

Campbell, B. & Fulton, L. (2003). *Science Notebooks: Writing About Inquiry.* Portsmouth, NH: Heinemann.
Articles and chapters as assigned

Course Goals:

1. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
2. Learning to *apply* course material (to improve thinking, problem solving, and decisions)
3. Develop awareness of and teaching for state and national standards.
4. Foster an appreciation of an inquiry based approach to teaching science.
5. Use strategies and activities to teach a variety of elementary school science topics.
6. Demonstrate the skills of planning to teach, including questioning and meeting the needs of diverse learners.
7. Use technology to enhance the teaching and learning of science.

Science Competencies and Assessment:

Standard 1: The science teacher manages classroom, field, and laboratory activities to ensure the safety of all students and the ethical care and treatment of organisms and specimens.	Safety Paper and Student Contract; Practicum Teaching; Inquiry based lesson plans; Science Portfolio.
Standard 3: The science teacher understands the process of scientific inquiry and its role in science instruction.	Inquiry based lesson plans; Practicum teaching; Science Notebooks.

Standard 4: The science teacher has theoretical and practical knowledge about teaching science and about how students learn science.	Inquiry based lesson plans; Practicum teaching.
Standard 5: The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning.	Inquiry based lesson plans; Science Notebooks.

Methods of Instruction:

The instructional methods used in this class include, but are not limited to: discussion, collaborative groups, individualized projects, demonstrations, media, group presentations, interactive lecture, reading and response. BLACKBOARD is utilized for communication and class assignments and information.

Course Requirements:

Students are expected to complete all classroom and out-of-classroom assignments in order to successfully complete the course. Students are expected to check BLACKBOARD and their ASU emails on a regular basis each week. **You are to check into Blackboard for this class each day for notices and information. Print out and bring to class documents as indicated in Blackboard.**

Attendance:

As a developing teacher, your ability to demonstrate a positive and professional attitude toward your peers, assignments, practicum teacher, and the instructor is essential. Students are expected to be in class on time and to attend each scheduled class. Students should notify the professor by email or voice message if they miss class. **After 2 absences, 3 points will be deducted from the final grade for EACH additional absence.** Excused absences allow for occasions such as illness, bad weather, funeral attendance, and court appearances. Try to save your 2 excused absences for emergencies. Excused absences for medical or family reasons permit students to make up work missed yet still results in points deducted.

During the practicum 3 points will be deducted from the final grade for EACH absence. The instructors, classroom teacher, and the members of your group MUST be notified. The 3 points will NOT be deducted if you make up the absence. Points will be deducted if the instructors and the cooperating teacher are not called in advance for an absence.

Being unprepared for class and turning in late assignments will negatively affect the letter grade you receive in this class. **Before each class session, check Blackboard and print out and bring any documents needed for class.**

Student must access BLACKBOARD for electronic posting of syllabus, assignments, announcements, grading information, etc. Students are to download these documents and bring the copies to class. Contact the ASU Help Desk at 325-942-2911 to learn about BLACKBOARD and accessing it. Do this before the second day of class. All written assignments must be typed.

Course Assignments and Grading:

1. Science Portfolio: Students will develop a science portfolio that will include all lesson plans, instructional strategies, philosophy of teaching science, safety, websites, etc. Portfolio's can be electronic or paper-based. Scoring is based on the portfolio rubric. Points assigned - 10
2. Classroom Safety: Students will be expected to develop a section in their science portfolio on general safety precautions that includes working with chemicals, flames and heat, dead and living animals, equipment and container use and storage, and instructions for field studies. Points assigned – 10
3. Science Writings/Science Notebooks Assignment: Students will keep a science notebook that records their understanding of science content used during the class. Points assigned – 10
4. Science Lessons: Students will be expected to construct written lesson plans that use the various strategies taught in the class (6 lesson plans). Lessons will be constructed that can be taught during the science practicum. Scoring is based on a rubric. Points assigned 6 x 5 = 30
5. Science Practicum Teaching: Students will be observed teaching 1 lesson in the classroom. Scoring is based on a rubric. Points assigned – 20
6. Student Reflections on practicum science teaching. Students will prepare two written reflections on their science teaching. Points assigned - 10
7. Class Participation: Students will be expected to participate in class activities, discussions and enrich the class. Scoring is based on instructor observations. Points assigned - 10

Grading Policy:

90 -100 points = A
80 - 89 points = B
70 - 79 points = C
60 - 69 points = D
59 points or below = F

Persons Seeking Accommodations: Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center, in order to request such accommodations prior to any accommodations being implemented. Students are encouraged to make this request early in the semester so that appropriate arrangements can be made.

Academic Honesty: Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is contained in both print and web versions of the *Student Handbook*.

Plagiarism or the use of Internet Web, etc. prepared papers is strictly forbidden. Faculty utilize Internet search links that assist in identifying plagiarized materials.

College of Education Cell Phone/Electric Paging Device Policy: Cell phones, pagers, and other electronic devices are to be turned off during class time.

Tentative Class Schedule

Date	Content	Assignments/Due Dates
8/25-27	Introductions Inquiry Based Science Introduction to science notebooks	
9/1-3	Science Process skills Science Notebooks	Read Science Notebooks text
9/8-10	5 E Model for teaching science	
9/15-17	5 E Model (continued)	
9/22-24	Safety Concept Attainment Model	1st 5 E Lesson Plan
9/29-10/1	Technology in the science classroom WebQuests	Concept Attainment Lesson Plan
10/6-8	Using Science Notebooks for Field Studies Planning outdoor activities	Classroom Safety Document
10/13-15	Preparation for teaching assignments Mid-term TExES prep assessment	2 x 5 E lesson plans Outdoor/Field Study lesson plan due
10/20-11/19	Practicum Teaching	1 lesson observation
11/24	Review and reflect on practicum teaching	
11/26	Thanksgiving – no classes	
12/1-3	Misconceptions Review Science Notebooks	WebQuest lesson plan
12/8-10	Finals - students are expected to be on campus for finals.	Science Portfolios, science notebooks, and lesson reflections due

It is intended that the class participate in Project Wild and the ASU Outdoor School – dates and times will be announced. These will be during class times but might change the tentative schedule above.