



EDUC 4314 – Teaching Science in the Elementary Classroom

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Term Spring 2024
Location of Course TBD
Course Time TBD
Office Hours: Available by appointment

Course Description

A pedagogical content knowledge (PCK) approach will be emphasized in the study of selected science topics drawn from the biological and physical sciences.

Student Learning Outcomes

This course is designed to prepare you to teach science in grades K-6. To achieve this goal, you will have the opportunity to explore science as a way of knowing the world and as a tool for problem solving. We will be actively engaged in doing science as well as talking and reading about science. We will be exploring science as it relates to the formal classroom setting and the informal settings outside the classroom. We will be examining science as it relates to and can be integrated with, other subject areas.

Course Topics and/or Student Learning	Activities	Assessment (including performance-based)
Integrate content standards in a variety of curricula that are developmentally appropriate, interesting, and relevant to student’s lives, organized around inquiry, and connected with other school subjects.	CKT Science Claim Evidence Reasoning Lesson Analysis (Video)	Lesson Plans Discussions/Reflections Performances of understanding
Create and teach lessons that reflect accurate knowledge of science content, the nature of science, science process skills, use of technology in science teaching, assessment, and science pedagogy.	5E Lesson plan	Peer review Lesson plan format Performances of understanding
Reflect upon their teaching experience noting areas of strength and weakness and develop plans to improve practice.	Lesson plan review State accountability	Reflections Discussions
Choose from a variety of activity types in order to teach science in a way to address student needs including collaboration with colleagues, other school professionals, and the community.	Stemscopes CK-12 Texas Gateway Coreknowledge	Lesson plan format

COURSE ASSIGNMENTS & EVALUATION

Class Participation/Discussions (20%)

Canvas Module/Activities (25%)

Reflections (20%)

Final Project (35%)

Detailed schedule assignment information and expectations, and assignment schedule, and expectations will be posted on Canvas.

Grading Criteria

- A 90-100% of points
- B 80-89% of points
- C 70-79% of points
- D 60-69% of points
- F below 59.9% of total points

COURSE POLICIES

It is my goal for each of you to benefit and grow professionally throughout this course. I believe in open communication so we can all learn from each other. You are expected to actively participate in our course activities so we may practice open dialogue. I also welcome you to visit with me in email, phone, or we can schedule a Zoom session. We can discuss the concept being discussed, your course performance, or anything else you would like.

Participation Expectations

This course is designed for online delivery. You should assume we have material to discuss/digest every week unless you are notified by your instructor. This course utilizes small-group learning activities, whole-class discussions, demonstrations, and outside-of-school activities to present science content to assist in successful passing of the EC-6 content test. Regular attendance is very important since much of what we have to learn will be experienced in the college classroom. Synchronous classes begin promptly at the scheduled class time. Please e-mail me before class if you plan on being absent. Please allow up to 48 hours for response to an email.

Mobile Devices (e.g. iPads, Cell Phones)/Laptops:

All electronic devices need to be set to silent mode during class time. Devices may be used for class activities ONLY. Laptops will enhance your class experience but should be closed unless needed during the activity.

Assignment Submission:

For written assignments a “page” is defined as:

- 8½” x 11” paper
- Times New Roman or Arial 12-point font
- Double-spaced (unless otherwise directed)
- 1-inch margin on all sides.
- Put page numbers on the top right-hand side.
- Put your name, title of the assignment and date submitted on your paper.

Papers that do not meet these specifications will not be accepted. With respect to format and style, your paper should conform to the latest edition APA Manual.

Late Work:

Assignments are posted with due dates and expected to be submitted on Canvas. Assignments and projects are expected to be handed in on time and are expected to be submitted on Canvas even if you are not in class. You may turn in your assignment early. An assignment will be considered late if it is not turned in the day and time it is due. Immediately following the due date and time, you will be given a 0 for missing work. ***Late work will be accepted 4 days after the due date for partial credit. However, you must notify the instructor via email that you have submitted the assignment in order to receive a grade. After day 4, no late work will be accepted.***

Attendance: This course is part of your professional practice. You are expected to attend every synchronous class meeting. Course objectives and performance outcomes cannot be met unless you attend class and participate in class activities. If you are absent for an extended period of time, you should make arrangements to explore options such as retaking the course or taking an incomplete grade. If you miss more than two in-class periods, you will need to make an appointment with the instructor for a possible Disposition Conference. If you are going to be absent for an exam, you must contact the instructor on or before the scheduled time the exam is to be given. You are responsible for all information given in class, online, and in the syllabus. Read assigned articles prior to each class meeting. You are responsible for this information on tests as well as during class participation. Criteria for all assignments will be available in class and posted online unless otherwise notified by the instructor.

Canvas:

You are responsible for enrolling on Canvas prior to the second-class meeting and monitoring the course site regularly for course information. Assignments will be turned in through the assignment tab in Canvas. A link to the NSTA Learning Center will be available within the Canvas environment. Safe Assign/Unicheck is a tool that will be used to check a document for plagiarism. The tool provides feedback as to whether or not the text in a document is a close match with other documents on the Internet, in journal databases, and submissions to Canvas. If a student is caught plagiarizing, a grade of zero will be given as well as a disposition for cheating.

All written assignments as well as all quizzes and exams are individual assignments. Students may not collaborate on the individual assignments. Unauthorized collaboration is considered cheating and will be handled according to University Policies and the Students Standards of Academic Conduct.

Suggested Resources

Contant, T. L., Bass, J. E., Tweed, A., & Carin, A. A. (2014). *Teaching science through inquiry-based instruction* (13th ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

Bauer, D., Cezeaux, K., & Scott, J. (2016). *Ultimate guide to the TExES core subjects EC-6*. San Antonio, TX: Ultimate TExES Guide.

Digital Resources

Texas Education Agency (TEKS) –

<http://ritter.tea.state.tx.us/rules/tac/chapter112/ch112a.html>

**The Texas Higher Education Coordinating Board College and Career Readiness Standards –
College and Career Readiness Standards**

<http://reportcenter.highered.texas.gov/agency-publication/miscellaneous/crs-tx-ccrs-final-2009/>

Class Web Sites

<https://www.ck12.org/>

<https://www.coreknowledge.org/>

<https://www.texasgateway.org/>

<https://lead4ward.com/resources/>

<https://www.eie.org/>

<https://www.nisenet.org/>

<http://www.BIE.org>

<http://www.Learner.org>

<http://www.edutopia.org>

<http://essea.strategies.org/>

<http://www.globe.gov>

<https://www.teachingchannel.org/>

<http://www.teachertube.com/>

Additional selected readings will be provided by the instructor or through the NSTA Learning Center and other sources.

UNIVERSITY POLICIES

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

For a full list of university policies including information related to the topics listed below, click [here](#).

- Students Rights and Responsibilities
- Campus Carry
- Tobacco-Free University
- Grade Replacement/Forgiveness and Census Date Policies
- State-Mandated Course Drop Policy
- Disability Services
- Student Absence due to Religious Observance
- Student Absence for University-Sponsored Events and Activities
- Social Security and FERPA Statement
- Emergency Exits and Evacuation
- Student Standards of Academic Conduct

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu, <http://www.uttyler.edu/writingcenter/>
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu, <https://www.uttyler.edu/tutoring/>
- The Mathematics Learning Center, RBN 4021, This is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254) <https://www.uttyler.edu/counseling/>
- [University Guidelines, Links and Policies](#)