

Fall 2023
EDEE 3330.016
TEACHING SCIENCE EC-6
Tuesdays 5.30pm to 8.20pm
Matthews 111

Instructor Dr. Chris Ham <i>Adjunct Faculty - UNT</i> <i>Secondary Science Teacher – Frisco ISD</i>	
Office hours Weekdays 4:45 PM – by appointment – On Zoom (Except Tuesdays) Tuesdays – after class – by appointment – Matthews 111	
Contact info chrisham@my.unt.edu	Final Exam date/time/place TBD/Online Canvas

DEPARTMENT OF TEACHER EDUCATION AND ADMINISTRATION: PREPARING TOMORROW'S EDUCATORS AND SCHOLARS

The **Department of Teacher Education and Administration** seeks to improve educational practice through the generation of knowledge and to prepare education professionals who serve all students in an effective, inclusive and equitable manner. Its focus is on the preparation of highly competent educators, researchers and administrators who employ current theory and research as they fill these important roles.

Mission

The Department of Teacher Education and Administration integrates theory, research, and practice to generate knowledge and to develop educational leaders who advance the potential of all learners.

Vision

We aspire to be internationally recognized for developing visionary educators who provide leadership, promote social justice, and effectively educate all learners.

**UNT TEACHER EDUCATION PROGRAM
COMMITMENTS**

While teaching has always been a relational and intellectual endeavor, we acknowledge that *teaching is also both an ethical and a political act*. We recognize that many of the practices and traditions in schools today perpetuate long-seated historical and social oppressions. These social inequities are structural *and* socially constructed along dimensions of intersecting identities, including, but not limited to, race, color, ethnicity, national origin and identity, dis/ability, gender identity and expression, sex, sexual orientation, religion, immigration status, language, social class, age, and genetic orientation.

It is through our radical imaginations that we can create spaces for critical inquiry and engagement in schools at multiple levels: intellectual, ethical, physical, social, emotional, ecological, and aesthetic. We envision classrooms to be inclusive places that serve as complex and just ecosystems that allow for multiple identities, modes of expression, and ways of engagement to thrive together. We do this because we are committed to dismantling oppression.

Teachers play an important role in this movement. Our teacher education program supports the development of core values related to:

- **Identity.** Preparing teachers who have agency and critically reflect on their lived experiences and identities as a way of informing their professional knowledge and humanizing pedagogies.
- **Inquiry.** Preparing teachers who value and inquire into the complex identities, as well as intellectual and transformational capacities, of children and youth.
- **Activism.** Preparing teachers who create curriculum that responds to children's and youth's inquiries and identities, as well as the sociopolitical and socioeconomic conditions of the world outside of schools—in neighborhoods, communities, and society-at-large.
- **Community.** Preparing teachers who recognize and honor the unique sociocultural experiences and communities of children and youth with whom they work.

We commit to teaching and teacher preparation that takes a transformative stance toward school change. We believe—acting in solidarity with teachers, children, youth, school leaders, and communities—we can radically reimagine and reconstruct schools and, thus, our society.

Teacher Preparation at The University of North Texas
Core Commitments

Commitments->	As Teachers	To Children and Youth	In our Practice	To Radically Imagine
Identity	We are individuals with cultural histories, knowledges, talents, and interests that we use as resources in our teaching.	We value and nurture the love, grace, humor, compassion, creativity, patience, joy, and peace young people bring into our teaching spaces.	We practice humanizing pedagogies that are asset-based, equitable, and appreciative of who we are and who we are becoming.	We imagine schools as spaces where teachers are encouraged and given space to be different in what they do with young people and their communities.
Inquiry	We are intellectuals with a deep understanding of academic content, curriculum development, and flexible pedagogies.	We value young people's knowledge, creativity, curiosity, aesthetics, imagination, and embodied ways of being as essential, educative and liberating	We practice curriculum as critical inquiry and research where children and youth are positioned as capable, knowledgeable and social agents for change.	We imagine a curriculum in schools that is shaped by societal goals and influenced daily by events unfolding in the world around us.
Advocacy & Activism	We are activists working against injustice for young people, teachers, and communities rooted in racism and other forms of discrimination.	We value and embody caring in all its forms – personal, social, cultural, linguistic, and ecological – as essential to growing a positive learning and living environment.	We practice activism in the curriculum by engaging children and youth in work that contributes to the creation of more just, more caring, and more peaceful world.	We imagine metaphors for schools as nurturing spaces for the whole individual rather than as efficient factories or businesses that produce products and profit.
Communities	We are members of a multiple communities— connected in ways that make our successes intertwined.	We value inclusive learning communities that connect us within and outside of our classrooms.	We practice humility through our vulnerability; hope in the face of adversity; and resilience in response to our efforts that have fallen short.	We imagine schools as sustaining intersecting ways of being, knowing, and languaging.

COURSE PREREQUISITES

Admission to the teacher education program, which includes participation in a field-based program, EDEE 3320, 3380; all courses in the reading/English/language arts part of the academic major (visual art, music, and theatre arts); and required core and academic major science courses and DFST classes. This course is to be taken in the professional year.

CATALOGUE DESCRIPTION

EDEE 3330: 3 hours. Science Grades EC-6

Subject matter background and material organization for an integrated science program in the primary/elementary school. Students experience firsthand the scope and sequence of science education in an elementary school setting. Students assignments and discussions are grounded in creating lesson plans and experiences inclusive of marginalized communities with a focus in bringing social justice and activism into the science classroom.

COURSE GOALS

Upon successful completion of the course activities students will be able to:

1. Demonstrate professional skills, knowledge, and attitudes as outlined in the Texas Teachers Proficiencies Identify science materials and lessons to address the appropriate Science Content contained in the Texas Essential Knowledge and Skills.

2. Plan, develop, and implement inquiry-learning activities that follow accepted practice of inquiry-based science in the 5E format.
3. Select (and adapt if necessary) activities and lessons from various resources to an appropriate style and sequence based on science education research.
4. Organize and manage a safe hands-on approach to science instruction.
5. Make connections between social justice and activism in teaching and learning how to be a science educator.
6. Demonstrate an understanding of the true nature of serving underrepresented and marginalized populations through lesson planning and creating equal opportunities.

Pedagogy and Professional Responsibility Standards (PPR)

- Knows and understands the importance of the state content and performance standards as outlined in the TEKS.
- Uses the TEKS to plan instruction.
- Knows and understands the importance of designing instruction that reflects the TEKS through Grade 6.
- Plans instructional activities that progress sequentially and support stated instructional goals based on the TEKS through Grade 6.
- Knows the connection between the statewide Texas assessment program, the TEKS through Grade 6, and instruction.
- Standard I: Domain I: Competency 001-004 Domain III: Competency 007-010: The teacher designs instruction appropriate for all students that reflects an understanding of relevant content and is based on continuous and appropriate assessment.
- Standard II: Domain II: Competency 005-006: The teacher creates a classroom environment of respect and rapport that fosters a positive climate for learning, equity and excellence.
- Standard III: Domain III: Competency 007-010: The teacher promotes student learning by providing responsive instruction that makes use of effective communication techniques, instructional strategies that actively engage students in the learning process and timely and high-quality feedback.
- Standard IV: Domain IV: Competency 011-013: The teacher fulfills professional roles and responsibilities and adheres to legal and ethical requirements of the profession.
- Technology Applications Standard I: Domain III: Competency 007-010: All teachers use technology-related terms, concepts, data input strategies and ethical practices to make informed decisions about current technologies and their applications.
- Technology Applications Standards II: Domain III: Competency 007-010: All teachers identify task requirements, apply search strategies and use current technology to efficiently acquire, analyze and evaluate a variety of electronic information.
- Technology Applications Standard III: Domain III: Competency 007-010: All teachers use task-appropriate tools to synthesize knowledge, create and modify solutions and evaluate results in a way that supports the work of individuals and groups in problem-solving situations.
- Technology Applications Standard IV: Domain III: Competency 007-010: All teachers communicate information in different formats and for diverse audiences.
- Technology Applications Standard V: Domain III: Competency 007-010: All teachers know how to plan, organize, deliver and evaluate instruction for all students that incorporates the effective use of current technology for teaching and integrating the Technology Applications Texas Essential Knowledge and Skills.

Curriculum Topics

- Code of Ethics per Chapter 247: Domain II, IV
- TEKS organization, structure, and skills: Domain I, III
- State assessment of students (STARR Responsibilities): Domain I, II, IV
- Curriculum development and lesson planning: Domain I, II, III
- Classroom assessment for instruction/diagnosing learning needs: Domain I, III
- Instructional technology: Domain I, III
- Pedagogy/Instructional strategies: Domain I, III, IV
- Differentiated instruction: Domain I, II, III, IV
- Classroom Management: Domain II, IV

REQUIRED FIELD HOURS If Applicable

Prerequisite(s): admission to the teacher education program, which includes participation in a field-based program, EDEE 3320, 3380; all courses in the reading/English/language arts part of the academic major (visual art, music,

and theatre arts); and required core and academic major science courses. This course is to be taken PDS1.

REQUIRED TEXTBOOKS AND/OR MATERIALS

There are no textbooks for this course. All course readings are available online/Canvas.

ASSIGNMENTS

Grading

Course grade matrix: (for assigning final course grades)

100% – 90% = A,
 89% – 80% = B,
 79% – 70% = C,
 69% – 60% = D,
 below 60% = F

Tentative Grade Breakdown	
Class attendance/participation	10%
Weekly activities + Science Notebook	20%
Reading activities	20%
Microteaching activities	25%
Lesson Plan/Final Exam	25%
Total	100%

UNT'S STANDARD SYLLABUS STATEMENTS

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

ADA Accommodation Statement. UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website at disability.unt.edu. (UNT Policy 16.001)

Course Safety Procedures (for Laboratory Courses). Students enrolled in [insert class name] are required to use proper safety procedures and guidelines as outlined in UNT Policy 06.038 Safety in Instructional Activities. While working in laboratory sessions, students are expected and required to identify and use proper safety guidelines in all activities requiring lifting, climbing, walking on slippery surfaces, using equipment and tools, handling chemical solutions and hot and cold products. Students should be aware that the UNT is not liable for injuries incurred while students are participating in class activities. All students are encouraged to secure adequate insurance coverage in the event of accidental injury. Students who do not have insurance coverage should consider obtaining Student Health Insurance. Brochures for student insurance are available in the UNT Student Health and Wellness Center. Students who are injured during class activities may seek medical attention at the Student Health and Wellness Center at rates that are reduced compared to other medical facilities. If students have an insurance plan other than

Student Health Insurance at UNT, they should be sure that the plan covers treatment at this facility. If students choose not to go to the UNT Student Health and Wellness Center, they may be transported to an emergency room at a local hospital. Students are responsible for expenses incurred there.

Emergency Notification & Procedures. UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Blackboard for contingency plans for covering course.

Foliotek ePortfolio (where applicable). Foliotek is a software data management system (DMS) used in the assessment of your knowledge, skills, and dispositions relevant to program standards and objectives. You will be required to use your Foliotek account for the duration of your enrollment in the College of Education in order to upload required applications, course assignments, and other electronic evidences/evaluations as required. This course may require assignment(s) to be uploaded and graded in Foliotek. The College of Education will track your progress in your program through this data to verify that you have successfully met the competencies required in your program of study. All students must register in the program portfolio that aligns with their degree plan. Registration codes and tutorials can be found on this site: <https://coe.unt.edu/educator-preparation-office/foliotek>

Student Evaluation Administration Dates. Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey, they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website at www.spot.unt.edu or email spot@unt.edu.

Sexual Assault Prevention. UNT is committed to providing a safe learning environment free of all forms of sexual misconduct. Federal laws and UNT policies prohibit discrimination on the basis of sex as well as sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking and/or sexual assault, there are campus resources available to provide support and assistance. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-565- 2648.

Acceptable Student Behavior. Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at deanofstudents.unt.edu/conduct.

UNT Course Policies

Face Coverings

UNT encourages everyone to wear a face covering when indoors, regardless of vaccination status, to protect yourself and others from COVID infection, as recommended by current CDC guidelines. Face covering guidelines could change based on community health conditions.

ATTENDANCE EXPECTATIONS:

Attendance: This course is designed and organized to be highly collaborative and interactive. Our sessions will involve small and whole group activities and discussions. Therefore, your attendance and participation are essential to the learning of everyone in our course. It is very difficult to be enriched by discussions and collaborations if you are not physically present or prepared for class. Per [university policy 06.039](#) an excused absence falls under the following categories:

- religious holy day, including travel for that purpose;
- active military service, including travel for that purpose;
- participation in an official university function;

- illness or other extenuating circumstances;
- pregnancy and parenting under Title IX; and
- when the University is officially closed.

If you are unable to attend a class for any reason (including those not listed above), please be sure to notify me **as soon as possible**. For reasons not listed above where missing class is unavoidable, please let me know so that we can come up with an alternate plan. ***It is my discretion to excuse absences for reasons not listed above***, and it is imperative that you communicate with me.

Attendance and participation in this class is required. Our time in class will consist of a lot of small group and whole class discussion. You are a vital part of a learning community, and your contributions are part of the knowledge that we create in our classroom. We need you here as often as you are able.

With that said, things come up. When you can't be in class, I expect you to let me know ahead of time if you can. Missing more than two class periods or missing any class without contacting the instructor will affect the participation portion of your grade and may warrant further administrative action. If you are absent, you are still responsible for turning in assigned work.

0 – 1 unexcused absence 10 points
2 unexcused absences 7 points
3 unexcused absences 3 points
4 unexcused absences F in the course

Course Materials for Remote Instruction

Remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to a [webcam and microphone – faculty member to include what other basic equipment is needed] to participate in fully remote portions of the class. Additional required classroom materials for remote learning include: [list specific software, supplies, equipment or system requirements needed for the course]. Information on how to be successful in a remote learning environment can be found at <https://online.unt.edu/learn>

DEPARTMENT SYLLABUS STATEMENTS

Foliotek ePortfolio (where applicable). Foliotek is a software data management system (DMS) used in the assessment of your knowledge, skills, and dispositions relevant to program standards and objectives. You will be required to use your Foliotek account for the duration of your enrollment in the College of Education in order to upload required applications, course assignments, and other electronic evidences/evaluations as required. This course may require assignment(s) to be uploaded and graded in Foliotek. The College of Education will track your progress in your program through this data to verify that you have successfully met the competencies required in your program of study. All students must register in the program portfolio that aligns with their degree plan. Registration codes and tutorials can be found on this site: <https://coe.unt.edu/educator-preparation-office/foliotek>

EDUCATOR STANDARDS

In order to recommend a candidate to the Texas Education Agency, the UNT Educator Preparation Program curriculum includes alignment to standards identified by the State Board of Educator Certification (SBEC). These standards are assessed throughout your preparation and through the TExES Certification exams required for your teaching certificate. The Texas State Board for Educator Certification creates standards for beginning educators.

These standards are focused upon the Texas Essential Knowledge and Skills, the required statewide school curriculum. Additionally, the Commissioner of TEA has adopted rules pertaining to Texas teaching standards:

TEXAS TEACHING STANDARDS

Standards required for all Texas beginning teachers fall into the following 6 broad categories:

- (1) Standard 1--Instructional Planning and Delivery.
 - a. Standard 1Ai,ii,iv
 - b. Standard 1Bi,ii (Lesson design)
- (2) Standard 2--Knowledge of Students and Student Learning
- (3) Standard 3--Content Knowledge and Expertise
- (4) Standard 4--Learning Environment
- (5) Standard 5--Data-Driven Practice
- (6) Standard 6--Professional Practices and Responsibilities

Full description of the standards and competencies can be accessed using this link: [Texas Teaching Standards Adopted in Chapter 149](#)

EDUCATOR STANDARDS FOR EC-6 CORE SUBJECTS:

A full description of the standards and competencies can be accessed using this link:

<https://tea.texas.gov/texas-educators/preparation-and-continuing-education/approved-educator-standards>

SCIENCE GENERALIST EC-6 STANDARDS

- Standard I. 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.
- Standard II. The science teacher understands the correct use of tools, materials, equipment, and technologies.
- Standard III. The science teacher understands the process of scientific inquiry and its role in science instruction.
- Standard IV. The science teacher has theoretical and practical knowledge about teaching science and about how students learn science.
- Standard V. The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning.
- Standard VI. The science teacher understands the history and nature of science.
- Standard VII. The science teacher understands how science affects the daily lives of students and how science interacts with and influences personal and societal decisions.
- Standard VIII. The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in physical science.
- Standard IX. The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in life science.
- Standard X. The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in Earth and space science.
- Standard XI. The science teacher knows unifying concepts and processes that are common to all sciences.

TEXAS ESSENTIAL KNOWLEDGE AND SKILLS

The following TEKS are addressed in this course. The Texas Essential Knowledge and Skills can be accessed on the Texas Education Agency Web site using the A-Z index at the following URL:

<https://tea.texas.gov/academics/curriculum-standards>

- [Science TEKS, Texas Administrative Code, Chapter 112 Science | Texas Education Agency](#)
 - o [SUBCHAPTER A ELEMENTARY \(Grades K TO 5\):](#)
[https://texreg.sos.state.tx.us/public/readtac\\$ext.ViewTAC?tac_view=5&ti=19&pt=2&ch=112&sch=A&rl=Y](https://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=19&pt=2&ch=112&sch=A&rl=Y)
 - o [SUBCHAPTER B \(Grade 6\)](#)
[https://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=19&pt=2&ch=112&rl=18](https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=19&pt=2&ch=112&rl=18)

ENGLISH LANGUAGE PROFICIENCY STANDARDS (ELPS)

This course incorporates the ELPS in lesson planning and instructional delivery in order to improve language acquisition and content area knowledge of students who are English learners. The ELPs will be implemented by teacher candidates during instruction of the subject area for students who are English learners. The ELPs can be accessed via the Texas Education Agency using the following link:
<http://ritter.tea.state.tx.us/rules/tac/chapter074/ch074a.html#74.4>.

TEXAS COLLEGE AND CAREER READINESS STANDARDS

The Texas College and Career Readiness Standards can be accessed at the Texas Higher Education Coordinating Board Web site using the following link:
<http://www.theccb.state.tx.us/index.cfm?objectid=EADF962E-0E3E-DA80-BAAD2496062F3CD8>

TECHNOLOGY APPLICATIONS

Technology Applications (All Beginning Teachers, PDF). The first seven standards of the Technology Applications EC-12 Standards are expected of **all** beginning teachers and are incorporated in to the Texas Examination of Educator Standards (TExES) Pedagogy and Professional Responsibilities (PPR) test.

Technology Applications Standards

- Standard I. All teachers use and promote creative thinking and innovative processes to construct knowledge, generate new ideas, and create products.
- Standard II. All teachers collaborate and communicate both locally and globally to reinforce and promote learning
- Standard III. All teachers acquire, analyze, and manage content from digital resources. Standard IV. All teachers make informed decisions by applying critical-thinking and problem-solving skills.
- Standard V. All teachers practice and promote safe, responsible, legal, and ethical behavior while using technology tools and resources.
- Standard VI. All teachers demonstrate a thorough understanding of technology concepts, systems, and operations.
- Standard VII. All teachers know how to plan, organize, deliver, and evaluate instruction for all students that incorporates the effective use of current technology for teaching and integrating the Technology Applications Texas Essential Knowledge and Skills (TEKS) into the curriculum. Standard VIII. The computer science teacher has the knowledge and skills needed to teach the creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts strands of the Technology Applications Texas Essential Knowledge and Skills (TEKS) in computer science, in addition to the content described in Technology Applications Standards I–V.
- Standard IX. The digital forensics teacher has the knowledge and skills needed to teach the creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts strands of the Technology Applications Texas Essential Knowledge and Skills (TEKS) in digital forensics, in addition to the content described in Technology Applications Standards I–V.
- Standard X. The digital art/animation teacher has the knowledge and skills needed to teach the creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts strands of the Technology Applications Texas Essential Knowledge and Skills (TEKS) in digital art/animation, in addition to the content described in Technology Applications Standards I–V.
- Standard XI. The robotics teacher has the knowledge and skills needed to teach the creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts strands of the Technology Applications Texas Essential Knowledge and Skills (TEKS) in robotics, in addition to the content described in Technology Applications Standards I–V.
- Standard XII. The digital communications teacher has the knowledge and skills needed to teach the creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts strands of the Technology Applications Texas Essential Knowledge and Skills (TEKS) in digital communications, in addition to the content described in Technology Applications Standards I–V.
- Standard XIII. The Web design teacher has the knowledge and skills needed to teach the creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem

solving, and decision making; digital citizenship; and technology operations and concepts strands of the Technology Applications Texas Essential Knowledge and Skills (TEKS) in Web design, in addition to the content described in Technology Applications Standards I–V.

- Standard XIV. The game/application development teacher has the knowledge and skills needed to teach the creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts strands of the Technology Applications Texas Essential

Science Lesson Plan (*adapted from Syllabus*)

Name:		Points
Lists and States the Learning Objective(s):		
At least 3 measurable objectives are listed and stated.		3
Comments:		
Lists and States the Language Objective(s):		
Language Objective(s) include the following actions : reading, writing listening, speaking		4
Comments:		
Assessments:		
Diagnostic Assessment/s: An identified diagnostic assessment is used to assess students' prior knowledge in <i>Engage</i> .		2
Formative Assessments: More than one identified formative assessment is used to assess students' knowledge construction throughout <i>Explore</i> and <i>Explain</i> – max 3 identified formative assessments .		3
Summative Assessment: Students are presented with an identified summative assessment with a rubric/answer scheme at the end of Microteaching		2
Comments:		
5E Learning Cycle:		
Engage	Assesses students' prior knowledge .	5
Comments:		
Explore	Includes an inquiry activity and integrates the NGSS Scientific and Engineering Practices	5
Comments:		
Explain	Includes Students' Explain Activity : Students explain concepts and definitions (in their own words).	5
	Includes Teacher Explanation that effectively utilizes Lectures/Direct Instruction and includes PowerPoint Slides; Concept Maps, etc. to teach and reinforce scientific explanations and vocabulary.	5
Comments: Students' Explain Activity		

Teacher Explanation		
<i>Elaborate</i>	<i>Briefly describes the activity/activities within which students apply their newly constructed science content knowledge</i>	5
Comments:		
<i>Safety</i>	Safety Rules and Regulations are listed when and/or where appropriate within the 3 phases, <i>Engage, Explore, and Explain</i> during Microteaching.	5
Comments:		
Language Modification(s):		
Integrates ELL strategies within the 3 phases, <i>Engage, Explore, and Explain</i> during Microteaching.		6
Comments:		
Equitable Science Instruction (Gender, Multicultural, etc.)		
Integrates the appropriate accommodations, modifications, and adaptations in relation to Equitable Science Instruction within the 3 phases, <i>Engage, Explore, and Explain during</i> Microteaching.		6
Comments:		
Material, Resources & Technology		
List all materials used to teach the science content described in the lesson Integrates the appropriate use of technology for instruction and/or student learning		4
Total		60

Week	Tentative Schedule
1 08/22/23	TOPIC: Course Introduction and Class Canvas
2 08/29/2023	TOPIC: - Standards for Science Teacher Preparation - Scientific Literacy 5E Instructional Model
3 09/5/2023	TOPIC: - Nature of Science - Engage Student Demos - Phenomena 5E Instructional Model Engage - Explore experience
4 09/12/2023	TOPIC: - Frameworks For Science Instruction - UDL - Surface Area/Volume 5E Instructional Model Explore
5 09/19/2023	TOPIC: - Explore Student Demos - Argument Driven Inquiry
6 09/26/2023	TOPIC: - TEKS Dissection - Culturally Responsive Science Teaching 5E Instructional Model Explain
7 10/3/2023	TOPIC: - Explain Student Demos - Three-Dimensional Science - SEPS and RTCS
8 10/10/2023	TOPIC: - Engineering Teaching and Project-Based Learning 5E Instructional Model: Elaborate
9 10/17/2023	TOPIC: - Elaborate Student Demos - Engineering Teaching and Project-Based Learning 5E Instructional Model: Elaborate
10 10/24/2023	TOPIC: - Creating Equitable Assessments in Science Instruction 5E Instructional Model Evaluate

11 10/31/2023	TOPIC: • Evaluate Student Demos • Science Lesson Planning - Intro • Consensus: 5E Instructional Model and Reform-Based Science Instruction
12 11/7/2023	TOPIC: • Students with Exceptionalities • Review previous content • Science Lesson Planning Follow Up + Work Time
13 11/14/2023	TOPIC: • Reflection, Discussion and Microteaching Presentation
14 11/28/2023	Topic: • Reflection, Discussion and Microteaching Presentation
15 12/5/2023	Topic: • Reflection, Discussion and Microteaching Presentation