

## Teaching Science EC-6/EDEE-3330/011

Welcome to EDEE 3330 course! This syllabus is designed to help you become successful while in class and after taking the course.

### Instructor Information

<b>Course Name</b>	<b>Teaching Science EC-6</b>
<b>Instructors' Name</b>	<b><u>Dr. Mila Rosa L. Carden (she, her, hers)</u></b>
<b>Office Location</b>	<b>Matthews Hall 218-H</b>
<b>Office Hours</b>	<b>Wednesday: 1-3PM; Tuesday: 4-5 PM</b>
<b>Email:</b>	<b>mlarosa.carden@unt.edu</b>

### About Me:

I created a short video (2:24 mins) about myself including educational background, professional experiences, scholarly works and personal information. Video link is available in Canvas.

### Course Description

Teaching Science EC-6. Introduces students to the scope and sequence of science education in an elementary school setting, to lesson plans and lesson design inside both formal and informal learning settings, and to the contributions of scientists of from various backgrounds, race, ethnicities. Focuses on ways to make science accessible for all and use scientific knowledge to make informed decisions. Must be taken in Block A. Prerequisite(s): Admission to teacher education program. Corequisite(s): EDRE 3350 and EDEE 3340.

### Course Structure

EDEE 3330-Teaching EC-6 a is a face-to-face, 15-week course, 2hrs and 50-minute long per session. All assignments have due dates; please refer to the course schedule included in this syllabus. All sessions will be at Matthews Hall, Rm 111 (change of venue will be promptly communicated). Each session includes one module with a focused topic that will last for a week. If there are meritorious reasons (e.g., suspension of classes), module coverage will be extended to the next session/s. All readings will be uploaded to Canvas.

### Course Objectives:

Throughout the course, we will address an enduring goal of science education to develop an understanding of the nature of science through readings, research-based instructional activities such as the use of picture books, and participation in scientists' works (e.g., citizen science). These activities will help answer the question, **how is scientific knowledge constructed?** Each course requirement aims to explore students' science identity and to expand their own definition and ideas of science to make science education more humanistic and science accessible for all, thus answering, **who is science for?** You will have microteaching sessions to help you design and implement a 5E lesson plan emphasizing inquiry in science and teaching the nature of science (NOS). The 5E learning framework is a constructivist, inquiry approach

where you are supported to enhance your curiosity (*engage*), design your investigations (*explore*), create and analyze your own evidence/scientific ideas (*explain*), communicate and challenge your ideas with others (*elaborate*), and assess your understanding (*evaluate*) (Bybee, 2015). After your microteaching, your peers and I will provide feedback to help you reflect on **why and how you teach science**.

### **Learning Outcomes**

By the end of this course, and with the support of your instructor, you will:

1. demonstrate professional skills, knowledge, and attitudes as outlined in the Texas Teachers Proficiencies
2. identify appropriate science materials, lessons, and strategies for your selected grade level to plan and teach Science Content in the Texas Essential Knowledge and Skills.
3. incorporate evidence-based science practices and safe science practices in lesson plans and implementations.
4. design/modify activities to support equitable and inclusive science learning.
5. demonstrate understanding of the nature of science through your 5E lesson plans and microteaching.

### **For laboratory activities, please be informed of the following safety procedures and guidelines:**

While working in laboratory sessions, you are required to follow proper safety procedures and 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 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.

### **How to Succeed in this Course**

I always start my class with “science and me” storytelling. Your stories provide me window to your past and present science learning experiences, including negative and positive attitudes toward science and apprehensions about teaching science. Knowing your stories will help me get to know you, thus help me better support your learning. As future science teachers, it is important that you are confident how to teach science. To help you gain this confidence, you will be “lead learners’ in class. My hope is that you will have a sense of self-value as a source of scientific knowledge in and out of the classroom. Throughout the course, I want you to not just learn and do science but learn *about* science. After the course, you should be able to address

these questions: ***How is scientific knowledge constructed? Who is science for? Why do we teach science?***

One of the critical indicators of your success in this class is **communication**. I prefer to address your concerns about the class (e.g., assignments, readings) and/or personal concerns about this class during my consultation hours: **Wednesday: 1:00-3:00 PM or Tuesday: 4:00 - 5:00PM**. I will also allot the last 15-20 minutes of the class as Q and A session.

If these days and times don't fit your schedule, please email me and I will respond within 48 hours. If it is urgent, please indicate it in the SUBJECT of your email. I prefer an in-person meetings, but if unforeseen events happen and you cannot come for in-person consultation hours, you can set a Zoom meeting with me. For Zoom meetings, make an appointment two days before your desired meeting. Please come on time during in-person and Zoom consultation/meetings.

**Your success is important to me, so I HIGHLY encourage you to use these consultation hours for all your class-related concerns.**

Guidelines for communicating online or face-to-face: Remember these tips when interacting with your peers and me.

- Treat your instructor and classmates with respect in email or any other communication.
- Always use your professors' proper title: Dr. or Prof., or if in doubt, use Mr. or Ms.
- Unless specifically invited, don't refer to your instructor by the first name.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times New Roman and use a size 10- or 12-point font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETED AS YELLING.
- Limit and possibly avoid the use of emoticons like :)
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via email.

Source: Online Communication Tips (<https://clear.unt.edu/online-communication-tips>)

**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.
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If you cannot attend a class for any reason (including those not listed above), please notify me **as soon as possible**. Likewise, for reasons not listed above where a missing class is unavoidable, please let me know so we can devise an alternate plan. ***It is my discretion to excuse absences for reasons not listed above***, and you must communicate with me.

Attendance and participation in this class are required. Our class time will consist of many small groups and a 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. Therefore, we need you here as often as you are able.

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. You are still responsible for turning in assigned work if you are absent.

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

You are also expected to arrive at class on time and not leave before the end of the course. **Three instances of arriving more than 15 minutes late or leaving 15 minutes early will result in one unexcused absence.** Coming to class late or leaving early for the reasons listed above for excused absences will be counted as excused. Again, be sure to communicate with me in those instances.

### **Accommodation**

Together with UNT, I am here to provide you accommodations you may need. Please do not hesitate to reach out.

“The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable 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 reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the [Office of Disability Access](http://www.unt.edu/oda) website (<http://www.unt.edu/oda>). You may also contact ODA by phone at (940) 565-4323.”

### Supporting Your Success and Creating an Inclusive Learning Environment

We all come to this course with different perspectives influenced by our personal cultural background and diverse learning styles and level of abilities. Therefore, I expect each of you and including me to be respectful all the time. Below are my expectations and non-negotiable rules in class.

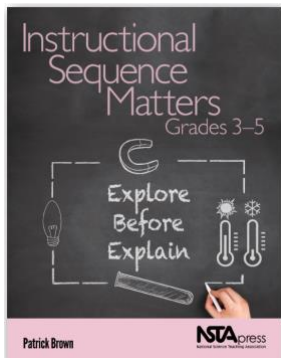
#### Use of Digital Devices (e.g., Laptop, cell phone, iPad)

- As a matter of professional courtesy, please set *any cell phone(s)* in *silent mode* before class begins and keep them in this mode until class is over, no texting. If you need to take an emergency call, please step out of the room to take the call. No need to ask permission.
- The use of laptops may take your attention away from meaningful classroom experiences. Please be responsible when using your laptops and iPads.
- For your reference: I will use the traffic lights to indicate use of devices:  
**GREEN:** You can use your laptops/devices during class for online resources/ technology-based activities.  
**ORANGE:** Say “orange” if you need to use it for your individual work in class. You should be able to tell me how it will be helpful/relevant to your work.  
**RED:** no device needed

*“UNT strives to offer you a high-quality education and a supportive environment, so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and information on how you can be successful at UNT, go to [unt.edu/success](http://unt.edu/success) and explore [unt.edu/wellness](http://unt.edu/wellness). To get all your enrollment and student financial-related questions answered, go to [scrappysays.unt.edu](http://scrappysays.unt.edu).”*

## Required/Recommended Materials

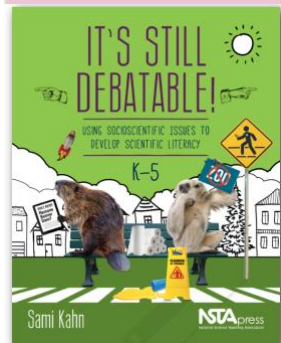
There are two references (see below) that you will be using during the semester. These books will be available to you during the session. If pages will be assigned as homework, I will provide a copy of pages. We will also have required readings (see Table 1 for titles) and links will be available in Canvas.



Title: Instructional Sequence Matters: Explore Before Explain for Grades 3-5 (2019)

Author: Patrick Lee Brown

Description: This book supports use of the 5E learning cycle and helps you to plan and teach meaningful understanding of science lessons.



Title: It's Still Debatable! Using Socioscientific Issues to Develop Scientific Literacy, K-5 (2019)

Author: Sami Kahn

This book provides you ways to teach students to use scientific knowledge to make informed decisions and find relevance of science in their everyday lives.

**Technology requirements for courses with digital materials:** This course has digital components. To fully participate in this class, students will need internet access to reference content on the Canvas Learning Management System. If circumstances change, you will be informed of other technical needs to access course content. Information on how to be successful in a digital learning environment can be found at [Learn Anywhere](https://online.unt.edu/learn) (<https://online.unt.edu/learn>).

## Course Requirements/Schedule

### Course Requirements:

There are two major requirements in this course: Writing a nature of science (NOS) lesson within an inquiry approach and microteaching (teaching your lesson to your peers). To successfully accomplish these requirements, you will have to complete in-class assignments and home-based assignments (homework).

## Lesson Planning and Microteaching

**Lesson Plan** is the teacher's "blueprint" of classroom instruction. It provides information about your topic, how you will teach it, and how your students can effectively learn about your lesson. Therefore, your lesson plan must be carefully design (inquiry-based with NOS integration)

including appropriate and effective strategies to ensure meaningful student learning in your classroom. In this course, you are required to write a mini-lesson plan you will implement during the microteaching session. We will use the “Instructional Sequence Matters: Explore Before Explain for Grades 3-5” reference as your guide. A lesson plan template will be provided to you.

**Microteaching** is a research-based strategy to help preservice teachers to prepare for actual classroom instruction. It consists of planning (lesson planning), implementation, and reflection. In this course, you will implement the lesson plan you designed for 20-30 minutes. Then, you will teach this lesson to your peers at a designated time. After your microteaching, you will receive immediate feedback from your instructor and peers. Then, you will submit individual reflections about your microteaching.

## Assignments

**In-Class Assignment (IA):** This assignment must be completed and submitted at the end of the class session. This may vary including individual, paired, or small group work. Most of the in-class assignments are completion assignment. You get a perfect score if you address the questions completely and appropriately. Some will be graded based on rubric.

**Homework (HW):** This assignment will be mostly individual work. You will be given a week or longer (as appropriate) to complete the task, therefore, due dates will vary. Description of homework will be posted on Canvas a week before for HW that can should be completed within a week. If HW requires more than a week, then description will be posted two weeks before and so on.

### First Assignment: Science and Me Story (HW)

#### Description

**Objective:** Describe your past and current experiences with science learning and teaching.

**Description:** Tell the story of your experiences in science from childhood to adulthood, both in and outside of school. When writing your story, refer to the following guide questions:

1. When and how did you first learn about science? What were the emotions associated with this experience, and why? (e.g., excited, scared, etc.) This experience may be within formal or informal settings.
2. What do you remember most in your elementary and high school science? (i.e., lessons, teacher, science activities) Provide specific example/s.
3. What and how do you want your science learning to be?
4. What and how do you want to teach science to *all* your students?

FORMAT of your story: You can submit in any form that you like: you can create a song, or poem, write a narrative story, draw your story, create a digital story, or any other way you feel comfortable doing it.



### On-Going Assignment (Weekly): Lead Learning Activity (HW)

**Objective:** To reflect on the assigned reading and lead the class discussion

LLA is a 20-minute activity that will help your peers make sense of the assigned reading. You and your partner will provide the class **key ideas** about the chosen reading in any way you think appropriate. *You may provide a supplementary reading to the class if you think it will be helpful to understand the reading material. This additional reading will be assigned to them after the discussion.*

**Be creative** in leading the session. Think of a strategy to encourage an interactive class discussion. I hope that you can use this strategy in your future classes. Be sure to **provide discussion prompts and appropriate for your topic. The emphasis is on science teaching strategies.** You should **emphasize the most essential and meaningful concepts and applications for your and your peers' science instruction.** \*ALL are responsible for understanding the readings and contributing to the class discussion in a meaningful and reflective way, whether you are leading the class activity/discussion or a participant. You will be graded based on a rubric available in Canvas.

### Citizen Science Project: (In-Class Assignment and Homework)

Do you want to feel and think like a scientist? Are you ready to participate in real world research conducted by professional scientists? This is for you!

Citizen Science is a “collaboration between scientists and those of us who are curious, concerned and motivated to make a difference.” (<https://scistarter.org/>). On the second week of the semester, you will undergo an online training to become citizen scientists. Details about this assignment will be posted in Canvas on the second week of the class. Below is a list of citizen science projects (Table 1). These projects are designed for elementary students. I purposefully selected these projects to fit the grade level that you will be teaching in the future. You will participate in ONLY ONE project. When you choose the project, you will provide reason for your choice. We will discuss in class some suggestions that you think would help you be successful in your participation.

**Table 1.**

List of Citizen Science Projects (Choose only one.)

CITIZEN SCIENCE PROJECTS
<u><a href="#">Nitrate Watch</a></u>
<u><a href="#">Axs Map</a></u>
<u><a href="#">World Music Lab</a></u>
<u><a href="#">Are We Alone In The Universe</a></u>
<u><a href="#">Snapshot Safari</a></u>
<u><a href="#">Osa Camera Trap Network</a></u>
<u><a href="#">Rocks &amp; Runes</a></u>



<u>Cancer Crusade</u>
<u>Nemo-Net Coral Classification</u>
<u>Globe Observer: Clouds</u>
<u>Tuberspot</u>
<u>Malariaspot Bubbles</u>
<u>Sknowledge Collective</u>
<u>C-Barq And Fe-Barq</u>
<u>Malariaspot</u>

### **Corn Project with Donald Danforth Plant Science Center**

Corn project is part of the “Course-Based Undergraduate Research Experiences (CUREs)” under the supervision of Donald Danforth Plant Center, designed for undergraduate students. In this project, you will be working in group and will be collecting and analyzing data from the corn that you planted. These data will be sent out to the center that will be further analyzed by the principal investigator/scientist. Your participation is VERY important. Your data will be part of the information to improve corn yield.

### **Late Assignments**

You are expected to turn in quality work; therefore, if you need more time to work on your assignment, you can submit your work three (3) days after the due date. Please see me if you need more than the three-day allowance; so we can discuss alternative options for you. NO late submission for in-class assignments unless we ran out of time during our class session. Please be responsible in managing your time. Set priorities and plan well.

**NOTE:** This rationale is grounded on research as reported by Joe Feldman (2019) in his book titled “Grading for Equity: What It Is, Why It Matters, and How It can Transform Schools and Classrooms”

Table 2.

### **Course Assignments**

Course Learning Outputs	Points Possible	% of Final Grade	Due Date and Time
Science and Me Story (Pre & Post) (HW and completion assignment)	15 (pre) 15 (post)	5%	Aug 30 (11:59 PM, pre) Dec 13 (11:59 PM, post)
View of Nature of Science (VNOS-D+ and SUSSI) (Pre & Post) (IA and completion assignment))	20 (pre) 20 (post)		Aug 23 (11:50 AM) (pre) Dec 6 (11:50 AM) (post)
STAAR (Pre & Post) (HW and completion assignment)	76		Sept 6 (11:59 PM, pre) Post (TBD)
Scope of Engineering Survey (Pre & Post) (IA, and completion assignment)	20 (pre) 20 (post)		Nov 1 (11:50 AM, pre) Dec 13 (11:50 AM, post)
Lead Learning Activities (HW rubric based grade)	15 (paired work)		ongoing
Other In-Class assignments (IA)	TBD		during class
First Draft of Lesson Plan (HW and rubric based grade)	100	30%	October 25 (11:59 PM)
Final Lesson Plan (HW and rubric based grade)	100		TBD (based on your microteaching schedule)
Citizen Science and Corn Project Participation (HW/IA and rubric based)	TBD	10%	Ongoing
Microteaching (Professor and Peers, rubric based grade)	100	30%	Varying due dates (based on sign-up sheets)
<i>Student evaluates</i>			
Class Participation/Professionalism (rubric based grade)	10	10 %	End of the semester
Attendance (UNT rubric)	10		End of the semester
Total Points Possible	<b>521 (as of today)</b>	100%	

**Course Schedule:** *Please note that this schedule may change to meet students' needs and unprecedented circumstances.*

Wk	Date	Topic	Required Class Readings from reference books and videos/supplementary readings	Assignments: In-class (IA); Homework (HW) [DUE DATES]
1	Aug 23	Course Introduction and Class Canvas  Safety in Science Classrooms	<ul style="list-style-type: none"> <li>Reading in Class: NSTA/ASTE Standards for Science Teacher Preparation</li> <li>NSTA Safety Classroom</li> </ul>	<ul style="list-style-type: none"> <li>VNOS-C or D+ (IA) [Aug 23, 11:50 AM]</li> <li>Science and Me Story (HW) [Aug 30, 11:59 PM]</li> <li>Supplementary Reading Assignments in Canvas</li> </ul>
2	Aug 30	The Nature of Science	<ul style="list-style-type: none"> <li>Reading in class: Teaching the nature of science: Three critical questions.</li> </ul>	<ul style="list-style-type: none"> <li>STAAR Test (HW) (Sept 6, 11:59 PM)</li> <li>Citizen Science Registration [Sept 6, 11:59 PM)</li> </ul>
3	Sept 6	Frameworks and Standards in Science Education <ul style="list-style-type: none"> <li>TEKS</li> <li>NGSS</li> <li>NSTA Position statements</li> </ul>	<ul style="list-style-type: none"> <li>Picture Books of Scientists</li> <li>NGSS videos (in Canvas)</li> </ul>	<ul style="list-style-type: none"> <li>Supplementary Reading Assignments in Canvas</li> </ul>
4	Sept 13	5E Learning Cycle	<ul style="list-style-type: none"> <li>Chapter 3 from Instructional Sequence book</li> <li>LLA pair 1</li> <li>Start of Citizen Science</li> </ul>	<ul style="list-style-type: none"> <li>Supplementary Reading for LLA 2(in Canvas)</li> </ul>
5	Sept 20	Ambitious Science Teaching	<ul style="list-style-type: none"> <li>Overview of Ambitious Science Teaching</li> <li>Ambitious Science Teaching Model Lesson Plan</li> <li>LLA pair 2</li> </ul>	<ul style="list-style-type: none"> <li>Supplementary Reading for LLA 3 (in Canvas)</li> </ul>

Wk	Date	Topic	Required Class Readings from reference books and videos/supplementary readings	Assignments: In-class (IA); Homework (HW) [DUE DATES]
6	Sept 27	Teaching science with Socio-scientific issue What is Citizen Science?	<ul style="list-style-type: none"> <li>• LLA pair 3</li> <li>• “Soaky Doaky”</li> </ul>	<ul style="list-style-type: none"> <li>• No supplementary Reading</li> </ul>
7	Oct 4	Start of Corn Project	<ul style="list-style-type: none"> <li>• Corn Project Implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Supplementary reading for LLA 4</li> </ul>
8	Oct 11	Culturally Relevant Teaching	<ul style="list-style-type: none"> <li>• LLA pair 4</li> </ul>	<ul style="list-style-type: none"> <li>• Supplementary Reading for LLA 5 (in Canvas)</li> </ul>
9	Oct 18	Misconceptions in Science and Science Literacy ESL	<ul style="list-style-type: none"> <li>• LLA pair 5</li> </ul>	<ul style="list-style-type: none"> <li>• Supplementary Reading for LLA 6 (in Canvas)</li> </ul>
10	Oct 25	Science for English learners <ul style="list-style-type: none"> <li>• Inquiry and Claim-Evidence-Reasoning</li> <li>• Assessment of English Lang Learners</li> </ul>	<ul style="list-style-type: none"> <li>• LLA 6</li> <li>• “Blast from the past”</li> </ul>	<ul style="list-style-type: none"> <li>• Supplementary Reading for LLA 7 (in Canvas)</li> </ul>
11	Nov 1	STEM/Engineering Education	<ul style="list-style-type: none"> <li>• LLA 7</li> <li>• “Building a Tower”</li> </ul>	Supplementary Readings
12	Nov 8	Microteaching	Microteaching	4 students (20 minutes each)
13	Nov 15	Microteaching	Microteaching	4 students (20 minutes each)
Nov 22 Thanksgiving				
14	Nov 29	Microteaching	Microteaching	4 students (20 minutes each)
15	Dec 6	Microteaching	Microteaching	2 students (20 minutes each)
16	Dec 13	FINAL EXAM	VNOS-D Final /Interview	Reflection for Citizen Science

### Grading

A = 90%-100%

B = 80-89  
 C = 70-79  
 D = 60-69  
 F = below 60%

## 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 evidence/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](#)
  - [SUBCHAPTER A ELEMENTARY \(Grades K TO 5\)](#)
  - [SUBCHAPTER B \(Grade 6\)](#)

### **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 into 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

**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](http://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 evidence/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](http://www.spot.unt.edu) or email [spot@unt.edu](mailto: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](mailto: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](http://deanofstudents.unt.edu/conduct).

### **Retention of Student Records**

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Blackboard online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

### **Technical Requirements & Skills**

#### **Minimum Technology Requirements**

- [Canvas Technical Requirements](https://clear.unt.edu/supported-technologies/canvas/requirements) (<https://clear.unt.edu/supported-technologies/canvas/requirements>)

#### **Technical Assistance**

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT, we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

**UIT Help Desk:** [UIT Student Help Desk site](http://www.unt.edu/helpdesk/index.htm) (<http://www.unt.edu/helpdesk/index.htm>)

**Email:** [helpdesk@unt.edu](mailto:helpdesk@unt.edu)

**Phone:** 940-565-2324

**In Person:** Sage Hall, Room 130

**Walk-In Availability:** 8 am-9 pm

**Telephone Availability:**

- Sunday: noon-midnight
- Monday-Thursday: 8 am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

**Laptop Checkout: 8am-7pm**

For additional support, visit [Canvas Technical Help](https://community.canvaslms.com/docs/DOC-10554-4212710328)  
(<https://community.canvaslms.com/docs/DOC-10554-4212710328>)

**Student Support Services**

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- [Student Health and Wellness Center](https://studentaffairs.unt.edu/student-health-and-wellness-center) (<https://studentaffairs.unt.edu/student-health-and-wellness-center>)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- [UNT Care Team](https://studentaffairs.unt.edu/care) (<https://studentaffairs.unt.edu/care>)
- [UNT Psychiatric Services](https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry) (<https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry>)
- [Individual Counseling](https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling) (<https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling>)

**Access to Information - Eagle Connect**

Students access point for business and academic services at UNT is located at: [my.unt.edu](https://my.unt.edu). All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward email [Eagle Connect](https://it.unt.edu/eagleconnect) (<https://it.unt.edu/eagleconnect>).

**Use of Student Work**

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.
- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.

Other student support services offered by UNT include

- [Registrar](https://registrar.unt.edu/registration) (<https://registrar.unt.edu/registration>)
- [Financial Aid](https://financialaid.unt.edu/) (<https://financialaid.unt.edu/>)
- [Student Legal Services](https://studentaffairs.unt.edu/student-legal-services) (<https://studentaffairs.unt.edu/student-legal-services>)
- [Career Center](https://studentaffairs.unt.edu/career-center) (<https://studentaffairs.unt.edu/career-center>)

- [Multicultural Center](https://edo.unt.edu/multicultural-center) (<https://edo.unt.edu/multicultural-center>)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- [Pride Alliance](https://edo.unt.edu/pridealliance) (<https://edo.unt.edu/pridealliance>)
- [UNT Food Pantry](https://deanofstudents.unt.edu/resources/food-pantry) (<https://deanofstudents.unt.edu/resources/food-pantry>)

### **Academic Support Services**

- [Academic Resource Center](https://clear.unt.edu/canvas/student-resources) (<https://clear.unt.edu/canvas/student-resources>)
- [Academic Success Center](https://success.unt.edu/asc) (<https://success.unt.edu/asc>)
- [UNT Libraries](https://library.unt.edu/) (<https://library.unt.edu/>)
- [Writing Lab](http://writingcenter.unt.edu/) (<http://writingcenter.unt.edu/>)
- [MathLab](https://math.unt.edu/mathlab) (<https://math.unt.edu/mathlab>)

### **Course Evaluation**

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course.

**WELCOME TO THE CLASS!**

DR. CARDEN