## Teaching Science EC-6/EDEE-3330

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

Instructor Information

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| Course Name | Teaching Science EC-6 |
| Instructors' Name | Dr. Mila Rosa L. Carden (she, her, hers) |
| Office Location | Matthews Hall 218-H |
| Office Hours | Tuesdays: 1-3 PM (face-to-face); Wednesdays: 1-3PM online |
| Email: | milarosa.carden@unt.edu |

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. You can also access my biosketch using this Canvas Link.

### 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 available through a link to library resource page. If you want a print copy, please let me know a week before the session.

### 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 through class activities and collaboration with professional scientists' projects. These activities will help answer the question, **how is scientific knowledge constructed?** To address "**who is science for?**", each course requirement aims a) to explore students' science identity 2) to expand their own definition and ideas of science, and 3) to make science education more humanistic and accessible for all. 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.

## Guidelines for required readings:

1) Each reading has assigned students to lead the class in making sense of the reading. (see Lead Learning Activity Section, p. 9).
2) If you are not scheduled to do the LLA for the session, read the article before the class. You will use the "Thinking Hats" Sheet. Choose at least one "hat" that you would like to "wear" after reading the article.
3) Share your "hat" when you come to class the following day.

## 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: **Tuesday: 1-3 PM (face-to-face); Wednesday: 1-3PM online.** 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 as URGENT. 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 unless instructed.

- 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;( "Official university function," in this policy, means all activities, events and programs sponsored by an academic or administrative unit of the University and all activities and on campus programs sponsored by student or employee organizations.)
- illness or other extenuating circumstances;

  For absences related to significant illness or extenuating circumstances, faculty can request that verification/documentation of absence go through the Dean of Students office. Examples of absences considered extenuating circumstances include: • Temporary disability or injury • Extended medical absence or hospitalization• Illness of a dependent family member • Major illness or death of a loved one, which may include immediate family members of the student, spouses/partners, and others as deemed appropriate by the Dean of Students office • Car accident that takes away transportation • Housing emergencies • Significant mental health concerns

  Examples of extenuating circumstances considered to be a matter between the faculty member and student include:

  Professional school interviews • Conference atendance • Receiving academic awards such as scholarships or other academic honors • Missing class due to being waitlisted (only applicable prior to census date) • Personal travel • Short-term illnesses and doctor appointments (Flu, covid, strep, cold, etc.)

- pregnancy and parenting under Title IX; and
- when the University is officially closed.

"A student is responsible for requesting an excused absence in writing, providing satisfactory evidence to the faculty member to substantiate excused absence and delivering the request personally to the faculty member assigned to the course for which the student will be absent. (Reference: 06.039 Student Attendance and Authorized Absences, p. 2)

"When an absence is excused, the faculty member will provide a reasonable time after the absence for the student to complete an assignment or examination missed." (Reference: 06.039 Student Attendance and Authorized Absences, p. 2) NOTE: Reasonable time means m no fewer than 10 days.

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 have prior schedule that will affect your attendance in class, I ask you to let me know ahead of time and explain the reason for absence at least a day before you will be absent. 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<br>10 points |
| 2 unexcused absences<br>7 points |
| 3 unexcused absences<br>3 points |
| 4 unexcused absences<br>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 without reason 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 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.

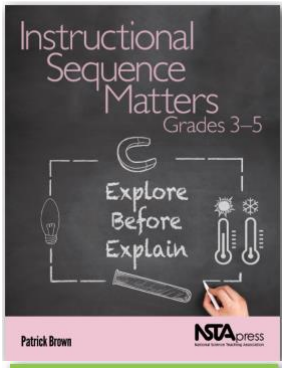
### Use of Digital Devices (e.g., Laptop, cell phone, iPad)

- 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/devises 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 devise 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 and explore unt.edu/wellness. To get all your enrollment and student financial-related questions answered, go to scrappysays.unt.edu."*

## 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).

## Course Requirements:

There are two major requirements in this course: **Writing a nature of science (NOS) lesson plan 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 or homework. See details about in-class assignments and homework in the following section.

## 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. I will provide resources for you to use, and you are also welcome to find your own references and share them with the class. 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.

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 the homework will be posted on Canvas a week before for HW that 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. (minimum of 5 sentences)
2. What do you remember most in your elementary, middle and high school science? (i.e., lessons, teacher, science activities) Provide specific example/s. (minimum of 5 sentences)
3. What and how do you want your science learning to be? (minimum of 5 sentences)
4. What and how do you want to teach science to *all* your students? (minimum of 5 sentences)

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, or create a digital story or in any way you want to

present you story. If presenting your story using other ways (not listed in this description), please ensure that you respond to the questions with adequate details.

The required 5 sentences per question above applies to narrative story.
If you will draw your story, provide at least 3 sentences describing your drawing.
If you are making a digital story, use any digital story applications and record your story no longer than 2 minutes.
If you want to create a poem or song, limit it to one page with no more than 500 words.

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

### Objectives:

1) to reflect on the assigned reading and lead the class discussion
2) to practice presenting in class before the microteaching session

LLA is a 15-20-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.

## Corn Project with Donald Danforth Plant Science Center

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!

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 two (2) days after the due date including the weekends.

Please see me if you need more than the two-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

| Course Learning Outputs | Points Possible | % of Final Grade | Due Date and Time |
|---|---|---|---|
| Science and Me Story (Pre &Post) (HW and completion assignment) | 20 (pre)<br>20 (post) | | Jan 18, 2023, 11:59 PM |
| View of Nature of Science (VNOS-D+ and SUSSI) (Pre & Post) (HW and completion assignment)) | 20 (pre)<br>20 (post) | | Class time |
| Picture Book Evaluation | 20 (pre)<br>20 (post) | | Class time |
| Lead Learning Activities (HW) | 15 (paired work) | | ongoing |
| Other In-Class assignments (IA) | TBD | | Class time |
| 5E Assignments | 100 | 30% | TBD (see Canvas) |
| Final Lesson Plan (HW and rubric based grade) | 100 | | TBD (based on your microteaching schedule) |
| Corn Project | TBD | 10% | TBD |
| Microteaching (Professor and Peers, rubric based grade) | 100 | 30% | Varying due dates (based on sign-up sheets) |
| *Student evaluates* | | | |
| Class Participation/Professionalism (rubric based grade) | 10 | 10 % | End of the semester |
| Attendance (UNT rubric) | 10 | | End of the semester |
| Total Points Possible | | 100% | |

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

Course Assignments, see Table 1; Course Schedule, see Table 2.

Table 1. Course Assignments

Table 2. Course Schedule: *Please note that this schedule may change to meet students' needs and may be due to unprecedented circumstances.*

| Week | Topic | Required Class Readings from reference books and videos/supplementary readings | Assignments: In-class (IA); Homework (HW) [DUE DATES] |
|---|---|---|---|
| 1 | • Course Introduction and Class Canvas<br>• Safety in Science Classrooms | • Reading in Class: NSTA/ASTE Standards for Science Teacher Preparation<br>• NSTA Safety Classroom | • Science and Me Story (HW) J [Jan 18]<br>• Views of Nature of Science (IA) [Jan 16] |
| 2 | • Framework 1: The Nature of Science (NOS) | • Picture Book of Scientists<br>• Readings:<br>o Helping students (re)think of themselves as scientists by Claire Jarvis (2020).<br>o Laura Beth Kelly (2018). Draw a Scientist Uncovering students' thinking about science and scientists | • LLA modeling<br>• LLA assignment (HW) [ongoing]<br>• Picture Book Evaluation (IA) [Jan 23] |
| 3 | • Framework 2: 5E Learning Cycle Part 1<br>• Standards in Science Education | • Engage and Explore<br>• TEKS and NGSS standards<br>a. The BSCS 5E Instructional Model: Personal Reflections and Contemporary Implications by Roger Bybee (2014)<br>b. Rogers, M. & Abell, S. (2008). The Art and (science)of Asking Questions | • Engage it! Video Analysis (IA) [Jan 30] |
| 4 | • Framework 2: 5E Learning Cycle Part 2<br>• Content Knowledge of Teaching (CKT) | • Explain, Elaborate and Evaluate<br>• Readings:<br>a. Definition of CKT<br>b. Pedagogical Content Knowledge: Teachers' Integration of Subject Matter, Pedagogy, Students and Learning Environments | • Engage and Explore Phases (Try it! # 1 Lesson Plan HW) [Feb 5]<br>• Reading Assignment LLA pair 1 (HW) [Jan 30] |

Table 2. Course Schedule continuation

| Wk | Topic | Required Class Readings from reference books and videos/supplementary readings | Assignments: In-class (IA); Homework (HW) [DUE DATES] |
|---|---|---|---|
| 5 | • Authentic Research Experience<br>• Citizen Science | • Corn Project Implementation<br>• Readings:<br>o More Than a Human Endeavor Teaching the nature of science at the elementary level (Olson, 2008)<br>o Wilcox & Lake (2018). Methods and Strategies: Teaching the Nature of Science to Elementary Students | • Reading Assignment LLA pair 2 (HW) [Feb 13]<br>• Explain and Elaborate Phases (Try it #2 Lesson Plan (HW) [Feb 19]<br>• Corn Project Initial Report [Feb 13] |
| 6 | • Framework 3: Socioscientific Issues | • Socioscientific Lesson 1 (session 1)<br>• Reading:<br>• It Starts at Home: Building on students' interests through socioscientific issues-based approaches by Melissa Cieto and Sephen Witzig (2022) | • Reading Assignment LLA Pair 3 (HW) [Feb 20]<br>• Evaluate Phase (Try it # 3) Lesson Plan HW) [Feb 27] |
| 7 | • Citizen Science and Authentic Research Experience | • Data Collection for Corn Project<br>• Citizen Science Project<br>• Readings:<br>a. Using Citizen Science to Engage Preservice Elementary Educators in Scientific Fieldwork by Scott (2016) | • Reading Assignment LLA Pair 4 [Feb 27]<br>• Lesson Plan Peer Feedbacking (IA) [Feb 27]<br>• |
| 8 | • Framework 4: Ambitious Science Teaching | • Ambitious Science Teaching Model Lesson Plan<br>• Reading:<br>• Chapter in the Ambitious Science Teaching Book | • Reading Assignment LLA pair 5 (HW)[March 5]<br>• Corn Project Final Reflection |

Table 2. Course Schedule continuation

| Week | Topic | Required Class Readings from reference books and videos/supplementary readings | Assignments: In-class (IA); Homework (HW) [DUE DATES] |
|---|---|---|---|
| SPRING BREAK | | | |
| 9 | • Framework 5: Science and Engineering Education | • Science and Engineering Lesson<br>• English Learners in STEM education<br>• Readings:<br>o Using Text Sets to Teach STEM in the K-5 Classroom. In Text Sets by Bintz, Moore, & Librea-Carden (2018).<br>o Bybee, R. W. (2011). Scientific and engineering practices in K-12 classrooms. Science Teacher, 78(9), 34-40.<br>o Sneider, C. (2012). Core ideas of engineering and technology: Understanding A Framework for K-12 Science Education. Science Scope, 35(5), 6. | • LLA Pairs 6 and 7 [March 25]<br>• Full lesson plan draft |
| 10 | • Framework 6: Culturally Relevant and culturally Responsive Teaching | • Readings:<br>o Culturally Relevant and Culturally Responsive: Two Theories of Practice for Science Teaching by Felicia Moore Mensah (2021)<br>o Madden & Joshi (2013). What does culture have to do with teaching science? | • LLA Pair 8 [April 2]<br>• Revision of lesson plan |
| 11 | • Framework 7: Universal Design | • UDL Lesson Model<br>• Readings/videos<br>o Bill Lindquist and Courtney Loynachan (2016). Learning Science in a Second Language<br>o UDL book | • Revision of lesson plan (HW) [April 9-23] |
| 12 | Microteaching | Microteaching | 5 students (20 minutes each) [April 9] |
| 13 | Microteaching | Microteaching | 5 students (20 minutes each) [April 16] |
| 14 | Microteaching | Microteaching | 5 students (20 minutes each) [April 23] |
| 15 | Microteaching | Microteaching | 5 students (20 minutes each) [April 30] |
| 16 | FINAL EXAM | Final Project | TBA |

## 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.thecb.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. (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.

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.

## 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)

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)
Email: 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)

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)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- UNT Care Team (https://studentaffairs.unt.edu/care)
- UNT Psychiatric Services (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)
- 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. 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).

## 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)
- Financial Aid (https://financialaid.unt.edu/)
- Student Legal Services (https://studentaffairs.unt.edu/student-legal-services)
- Career Center (https://studentaffairs.unt.edu/career-center)

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

Academic Support Services

- Academic Resource Center (https://clear.unt.edu/canvas/student-resources)
- Academic Success Center (https://success.unt.edu/asc)
- UNT Libraries (https://library.unt.edu/)
- Writing Lab (http://writingcenter.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