



Course Syllabus: Teaching Science in Middle School/High School

College of Education

EDUC-4086-Y10

Fall 2025

Tuesdays & Thursdays 7:40 am to
9:15 am

Contact Information

Instructor: Sabrina Bradley

Office: Rm 212

Availability hours:

- Mon— (Virtual) 3pm – 5pm
- Tues— 11am – 1:30pm
- Thurs— 2pm – 3pm

Office phone: N/A

E-mail: sabrina.bradley@msutexas.edu

Instructor Response Policy

We will be working and communicating constantly throughout the semester. Email is great however you will also be a part of class Remind which will provide more flexibility in communication. I will try my best to answer all emails and texts within 24 hours, however you will get a response within 48 hours (2 days). Any emails or texts received during weekends will not receive a response till the following Monday. No emails or texts will be answered over the weekend.

Course Description

This field-based, 3-credit course focuses on middle and secondary school science pedagogy with emphasis on instructional strategies and models, the use of technology in the learning/teaching process, effective practices, professionalism, curriculum, and lesson design. Different teaching strategies include appropriate use of creative approaches to the learning/teaching process, cooperative learning, direct instruction, inquiry, concept attainment, etc. An important component of this field-based block of classes is the course time spent in active participation in field (classroom) experiences.

Prerequisite(s): EDUC 3163, EDUC 3183, EPSY 3153, and SPED 3613 & Admission to the teacher education program.

Co-requisite(s): Concurrent enrollment in ETEC 4003.

Textbook & Instructional Materials

No textbooks. All materials will be on D2L in the form of links, videos, articles, readings, and other documents.

Student Handbook

Refer to: [Student Handbook 2024-2025](#)

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct. [Office of Student Conduct](#).

Course Objectives

- Learners will be able to understand, describe and implement learning and thinking in science in middle/high school level.
- Learners will be able to develop curriculum and use effective instructional planning skills.
- Learners will be able to develop appropriate assessment tools to assess students' learning and use the assessment data to design appropriate learning activities.
- Learners will be able to develop lesson plans that involve students in an active learning environment, including flexible instructional strategies and differentiation.
- Learners will be able to develop lesson plans/unit plans that incorporate national standards and state standards in science.
- Learners will be able to develop technology integrated instructional and assessment strategies and activities.
- Learners will be able to develop and implement effective teaching strategies including learner- centered instruction, integrating effective modeling, questioning and self-reflection strategies.
- Learner will be able to effectively implement discipline management procedures and communicate clear expectations for achievement and behavior for their students.
- Learners will be able to develop and implement learning environments (positive, equitable, engaging) that utilize various teaching/learning strategies, integrating

critical thinking, inquiry, and problem solving.

- Learner will be able to assume various roles in the instructional process (facilitator, instructor, audience, ...)
- Learner will be able to provide quality and timely feedback to students.
- Learner will be able to differentiate instruction to meet the academic needs and behavioral needs of students with disabilities and LEP-ELL and to provide appropriate ways of the students to demonstrate their learning.
- Learner will be able to collaborate with professionals in meeting the needs of students with disabilities.
- Learner will be able to understand and adhere to federal and state laws and district and campus policies regarding Students with disabilities and LEP-ELL students and implement IEP decisions and assessments related with IEP goals and objectives.
- Learner will be able to model and teach the forms and functions of academic English in content areas.
- Learner will be able to build and maintain positive rapport with students and their families.

*See Appendix A for a complete list of standards, competencies, and other expectations.
See Appendix B: Required assignment/standard alignment matrix*

Grading

Table 1: Points allocated to each assignment.

Assignments	Grade Points
Lesson Plan (50, 75, and 100)	225 points
Classroom Observation (best of the two)	200 points
Technology Assignments	25 points
Lab presentations (Individual)	40 points
Group Presentation	100 points
Lab Safety	50 points
Article Analysis	50 points
Reflection Assignment	12 points
Participation, Attendance, and Classroom Disposition (given in 30, 40, and 40 points)	110 points
Final Exam (Unit Plan)	108 points
TOTAL	920 points

Table 2: Points allocated to each assignment.

Grade	Points
A	90% - 100%
B	80% - 89.99%
C	70% - 79.99%
D	60% - 69.99%
F	Below 59.99%

Written Assignments

There are written assignments throughout the semester such as article analysis, lesson plans, reflection, and unit plans that build your understanding of thinking about how children assimilate science and prepare you to become aware of research-based practices in teaching science.

Details for each of them will be provided in class and available on D2L.

Presentation/Mini-Teaching

There will be two mini-teaching/presentation during the course to provide you with a space to practice teaching and get peer and instructor feedback. One teaching would be individual and one would be a group teaching in a co-teaching model, thus providing you with different pedagogies in teaching. Details about the expectations, rubric, and implementation will be provided in class and available on D2L.

Technology Assignment

Integration of technology needs to be purposeful and intentional in teaching of science. During the semester, you will be exposed to numerous technologies and also have opportunities to demonstrate your understanding of integrating technology. The assignments will provide variety and space to express your understanding in different ways. Details about the assignment along with rubrics will be shared in class.

Lesson Planning

Teacher candidates must demonstrate the ability to plan, assess, and implement instruction. This begins in the Foundational block where the teacher candidates create and write lessons for effective teaching. Teacher candidates are required to develop lesson plans. The specific format can be adapted, but should always include the objectives (TEKS), procedures, materials/resources, and assessment. Student engagement is a key element in a good lesson with a goal of student learning/success is the ultimate goal.

Candidates must form an assessment strategy to determine the extent to which students are able to master learning of objectives. Candidates also describe the

instructional delivery method addressing the following step-by-step procedures:

1. Questions and concerns listed in the directions given to you by your instructor
2. Setting purposes ("Today we will be...I want you to...because you will...")
3. Method(s) for engaging students in the lesson
4. Any questions asked during the lesson should be in bold
5. Higher order thinking reflected in questions
6. Instructional Strategies: Modeling, Discussion, "Hands-on", Inquiry, etc.
7. Grouping: when and how
8. Instruction that addresses learners' needs (ELLs, Special Education, 504, Gifted, Struggling Learner)
9. Closure

After teaching the lessons, candidates are then required to reflect on the lesson delivery, appropriateness of instructional strategies, impact for future planning, and opportunities for collaboration with mentor teacher. The skills acquired during lesson planning provides the foundation and are also built upon for unit planning and other key assessments.

See Appendix B for other learning experiences at WCOE.

Unit Planning

Unit Plan is a WCOE key assessment. Teacher candidate's ability to demonstrate the ability to plan, assess, and implement instruction continues in the professional block with the Unit plan assessment. The unit plan assessment is a modified form of Midwestern Impact on Student Learning (MISL) that requires teacher candidates to plan a unit of teaching. Candidates are required to determine a set of multiple learning objectives aligned to state content standards Texas Essential Knowledge and Skills (TEKS) appropriate to the lesson(s) the candidate is preparing.

As you complete the assignments for this class, you will demonstrate skills from the following five categories and will be assessed on them:

Domain I: Planning and Preparation - demonstrate knowledge of content and pedagogy; demonstrate knowledge of students; select instructional goals; demonstrate knowledge of resources; design coherent instruction; assess student learning.

- Plan *minds-on* lessons in a unit around *powerful ideas* that have students actively involved in the learning process.
 - Use the TEKS and district assigned standards for science instruction.
 - Curriculum and NCTM standards, to develop and present the lessons.
 - Content understanding and learning goals are assessed.
- Data collection and analysis.

Domain II: Classroom Environment - establish a culture for learning.

- Field experience observation: Teach one Science lesson in your field experience placement.
- Submit Lesson Plan to me AND your mentor teacher *five school days in advance*.
- Lesson cannot be taught until approved by both of us and must be observed by me.

Domain III: Instruction - communicate clearly and accurately; use questioning and discussion techniques; engage students in learning; provide feedback to students; demonstrate flexibility and responsiveness.

- Problem-solving
- Field experience observation.
- Peer instruction and reviews.
 - Classroom activities

Domain IV: Professionalism - Reflect on teaching; show professionalism; contribute to the school and/or district.

- Reflection required after Science lesson taught.
 - Being *present* in class in a prompt manner.
- Classroom Participation.

Domain V: Technology Integration - demonstrate the use of technology in the learning/teaching process.

- Integrate technology by being aware of various resources and its effectiveness and application to the curriculum.
 - Integrate technology and correlate it to the Science TEKS by critically analyzing technology for teaching science.
- Assignments accurately posted through D2L and TK20.

Participation

It's not just enough to show up! Participate in class discussions and activities by making meaningful, thoughtful contributions. Be sure you don't monopolize discussions; actively include other class members. You must read all materials when assigned. A participation grade can add points to your grade if you interact or take away points if you distract. This might be actions such as talking, disrupting, even on your phone while I'm talking.

Extra Credit

Extra Credit opportunities will be given and will depend on the flow and needs of the class.

Make Up Work/Tests

There will be no make-up or resubmissions allowed on assignments, quizzes, discussion boards, or any other activity in class.

Late Work

Unless arrangements are made by the student and approved **in advance** by the instructor, **late work will not be accepted for full credit**.

Late Work Policy- 25% off per day per assignment (including Saturday and Sunday). So, if the assignment is for 100 points, you can make a maximum score of 75 after one day, 50 after two days, 25 after three days, and zero after 4 days if all your answers are correct. There is NO late work on discussion boards or quizzes! All this is non-negotiable!!! If there are any issues/confusions, contact me BEFORE the assignment is due (at least 48 to 24 hours before the assignment is due). Time shown as on D2L or email be used.

NOTE: *Computer or D2L issues do not provide an excuse*. Extensive use of the MSU D2L program is a part of this course. Each student is expected to be familiar with D2L as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into D2L through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor. *Do not wait till the last minute to submit the assignment*. Delays or sending through email will be counted late!

Important Dates

Last day for term schedule changes: Check date on [Academic Calendar](#). Deadline to file for graduation: Check date on [Academic Calendar](#).

Last Day to drop with a grade of "W:" Check date on [Academic Calendar](#).

Refer to: [Drops, Withdrawals & Void](#)

Desire-to-Learn (D2L)

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Attendance

Absence Policy - Professional teachers are dependable, reliable, and responsible. Therefore, candidates are expected to be on time and in attendance at **every** class, and to stay for the **entire** class. Tardiness, leaving early, and excessive

absences (3) are considered evidence of lack of dependability, and are taken seriously. *Candidates will receive a grade of F on the third absence. If a candidate is taking 'blocked' courses that are taught at a Professional Development School, requiring field experience, the candidate will be dropped with an F from those classes as well.*

After an absence from the course, it is imperative that a student schedule an appointment with the course instructor to discuss attendance. Failure to schedule and attend a conference will result in the loss of classroom participation and disposition points and also in the overall grade being lowered by one letter. It is the candidate's responsibility to make up any missed work. It is also expected that you will complete all course field experience hours in a professional manner. Professional conduct is expected when observing or participating in school settings (e.g., dressing appropriately, arriving on time, remaining for the entire pre-arranged time, not canceling, and demonstrating respect in all interactions with young people, parents, teachers, and staff). If you must miss your field experience for any reason, you are expected to call the school and the teacher you are working with **before** school begins for the day. You must also contact the course instructor by e-mail or phone to let me know you will not be present and arrange a time with me when we can discuss the most appropriate way to make up that absence. Excessive tardiness (determined by the professor) can be defined as an absence and subject to the absentee policy. Three instances of tardy arrival will be counted as one absence.

In the event that a class member is absent, for whatever reason, that individual assumes responsibility for contacting the instructor to account for missed work and to turn in work. **It is impossible to provide a summary of all that takes place during any given class via email.** If a student is going to be absent, they have the responsibility to contact the instructor to turn in assignments and obtain copies of any handouts from the missed class. Tentative assignment due dates are listed on the course schedule. While the actual due dates may vary due to the flow of the class, all assignment due dates will be finalized and announced in class well in advance of the specific date.

Time Logs- During your field observations, you are required to submit time logs in TK20 to your cooperating teacher for attendance and participation verification. **You must accumulate a minimum of 50 hours total prior to clinical teaching, which need to be approved by the cooperating teacher.** This should be done weekly, and you should periodically check TK20 to ensure that your time logs have been approved. For this course, a minimum of 20 hours in the classroom should be dedicated to engaging with students in instructional or educational activities, although you will likely spend more than 15 hours doing so. Prior to your clinical teaching experience, you should have at a minimum of 50 hours of field-based experiences, 30 of which show active engagement in instructional or educational activities. All time log entries must have a detailed description/reflection explaining the instructional or educational activities. At the end of the course, on the date indicated on the calendar, you must upload a screenshot of every approved time log to the appropriate Dropbox in D2L

Computer Requirements

It is your responsibility to have (or have access to) a working computer in this class. *Assignments are due by the due date, and personal computer technical difficulties will not be considered a reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings.*

Computers are available on campus in various areas of the buildings as well as the Academic Success Center. Your computer being down is not an excuse for missing a deadline!!

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Other Expectations

As a part of your preparation for becoming a teacher, you are expected to begin acting in a professional manner – starting today. This includes, but is not limited to:

Internship Experience – Throughout your internship experience, ask your mentor teacher to provide you with constructive feedback regarding your classroom presence, interactions with students and lessons that you present to the students. Use this information to make necessary improvements during the time that remains in the schedule. Always conduct yourself in a professional manner.

Participation – It is not enough to just “show up.” In other words, you cannot just

sit there and breathe. You need to be prepared to discuss the readings that are assigned, contribute appropriately, and encourage the participation of your peers.

Preparation – Complete all assignments on time. Written assignments (whether submitted online or in class) will be discounted by 25% for each late day. Complete readings assigned prior to class in order to be able to participate in class discussions and activities.

Attitude – Demonstrate the following dispositions that are essential for learning:

- Curiosity (ask questions, look for additional answers, probe, reflect)
 - Flexibility (take alternate points of view, be open-minded)
 - Organization (plan ahead – literally, GET A PLANNER!)
 - Patience (take time to reason, be persistent in efforts)
 - Risk-taking (try things beyond your current repertoire)
- Passion (invest in ideas, processes, products, and most of all – other people).
 - Be aware that your attitude is conveyed to others by body language, conversation, neatness, completeness of work, willingness to assist and contribute and many other ways. A sense of humor and the ability to be flexible are crucial – not just in this class but from now on – that is the nature of the classroom.

Respect – Be considerate of others. Do not talk while others are talking; do not use foul language; behave in an ethical manner. This is particularly important considering our classroom location - we are guests in the Wichita Falls school district and should behave as such.

Professional Development – Remember that teaching requires a commitment to continual learning. You will be asked to complete several “chores” as the semester rolls along and the points earned for dispositions are affected by those “chores.” Timely completion of tasks (or “chores”) is an indication of your “fitness” to this profession.

Instructor Class Policies

Students are expected to assist in maintaining a classroom environment which is conducive to learning. **Students are prohibited from engaging in any form of distraction—this includes, but is not limited to, pagers and cell phones.**

Inappropriate behavior in the classroom shall result, minimally, in a request to leave class and a Professional Fitness Form will be filed for review with the college. If the instructor must file a Fitness Alert Form for any reason, including failure to demonstrate appropriate teaching dispositions, the student may receive an instructor drop with an "F" for the course.

MSU students demand of themselves the highest level of academic honesty as

delineated in their honor creed. Academic honesty involves the submission of work that is wholly the student's own work, except in the case of assigned group work. Additionally, academic honesty involves the proper citation of other author's works.

By enrolling in this course, the student expressly grants MSU a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and for educational purposes.

Adhering to professional ethics – When using professional sources in your writing, please cite sources you have used or ideas you have adapted when completing assignments. Use of copyrighted materials must adhere to legal and ethical guidelines. If part of an assignment is submitted for credit in more than one course, both professors must pre-approve this dual credit and the dual use should be referenced clearly on both assignments.

AI-written assignments are prohibited! You can use grammar check resources like Grammarly, and you can use AI to generate titles for projects if wanted. Any other use of AI will result in an "F" and disciplinary referral.

[Change of Schedule](#)

A student dropping a course (but not withdrawing from the University) within the first 12 class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the [Schedule of Classes](#) each semester.

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[Refund and Repayment Policy](#)

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees and room/board charges that were paid to MSU for the semester. HOWEVER, if the student received financial aid (federal/state/institutional grants, loans and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exists in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

[Services for Students with Disabilities](#)

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified

persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability Support Services, located in the Clark Student Center, Room 168, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to Disability Support Services.

College Policies

[Smoking/Tobacco Policy](#)

College policy strictly prohibits the use of tobacco products in any building owned or operated by MSU TEXAS. Adult students may smoke only in the outside designated-smoking areas at each location.

[Alcohol and Drug Policy](#)

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state and federal law for any offenses involving illicit drugs on University property or at University-sponsored activities.

[Campus Carry](#)

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. The new Constitutional Carry law does not change this process. Concealed carry still requires a License to Carry permit, and openly carrying handguns is not allowed on college campuses. For more information, visit Campus Carry.

[Active Shooter](#)

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit Safety / Emergency Procedures. Students are encouraged to watch the video entitled "Run. Hide. Fight." which may be electronically accessed via the University police department's webpage.

[Obligation to Report Sex Discrimination under State and Federal Law](#)

Midwestern State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and

visitors are free from sex discrimination of any kind. State and federal law require University employees to report sex discrimination and sexual misconduct to the University's Office of Title IX. As a faculty member, I am required to report to the Title IX Coordinator any allegations, personally observed behavior, or other direct or indirect knowledge of conduct that reasonably may constitute sex discrimination or sexual misconduct, which includes sexual assault, sexual harassment, dating violence, or stalking, involving a student or employee. After a report is made, the office of Title IX will reach out to the affected student or employee in an effort to connect such person(s) with resources and options in addressing the allegations made in the report. You are also encouraged to report any incidents to the office of Title IX. You may do so by contacting:

[Laura Hetrick](#)

Title IX Coordinator

Sunwatcher Village Clubhouse

940-397-4213

laura.hetrick@msutexas.edu

You may also file an online report 24/7 at Online Reporting Form

Should you wish to visit with someone about your experience in confidence, you may contact the MSU Counseling Center at 940-397-4618. For more information on the University's policy on Title IX or sexual misconduct, please visit Title IX Website

[Grade Appeal Process](#)

Update as needed. Students who wish to appeal a grade should consult the Midwestern State University MSU Catalog Notice