BED 4311/ELED 4311/MSED 4311
Summer II 2019 – CRNs 36059/36060/36061
Teaching Science in Dual Language Classrooms, Elementary Schools, Intermediate and Middle Grades

MTWRF, 9:30 AM - 11:20 AM, EDUC 405, UTEP

It's what you learn after you know it all that counts. - John Wooden

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Textbooks:

- Allen, Richard Howell (2001). **Impact Teaching: Ideas and Strategies for Teachers to Maximize Student Learning**, Allyn & Bacon. ISBN # 0205334148 (paperback).
- Brooks, J. G., & Brooks, M. G. (1999). **In Search Of Understanding: The Case For Constructivist Classrooms**. Alexandria, VA: ASCD. ISBN # 0871203588 (paperback).
- Rutherford, F. James and Algrehn, Andrew (1990). **Science For All Americans**, New York, Oxford University Press. ISBN # 0195067711 (paperback).

Course Description

This course will explore the methods and materials needed for teaching science in first through eighth grade. The emphasis of the class will be placed upon inquiry and standards-based teaching and learning. This includes the utilization of computer applications and field experiences.

Goals

This course is designed to help you examine critically the perspectives, philosophies, materials, and strategies for effective learning in elementary and middle school science classrooms. The ultimate goal is to understand how to design a learning climate where every student is held to high expectations and achieves maximum learning. In particular, the participants will develop a better understanding of effective science teaching and learning in schools in the unique border schools so our community will be equipped to make informed decisions about our world, to pursue science fields, to critically examine the power of science in our society, and to participate in improving our society.

Objectives

Demonstrate the following components vital to quality science education:

- Ability to implement an inquiry-based science curriculum
- Ability to assist students in designing investigations using scientific inquiry
- Understanding of the binational and bilingual implications in El Paso area science education
- Understanding of the role of women and underrepresented groups in science decisions and science careers
- Exhibit professionalism as a teacher of science
- Understanding of local resources and quality curriculum materials to assist your science program
- Improvement in your personal understanding of science concepts
- Understanding of standards for excellence (National Science Education Standards, TEKS, Excellence in Environmental Education -- Guidelines for Learning)

TExES Standards

You will be practicing teaching using a constructivist curriculum designed to provide successful learning experiences for all the children. Through this actual classroom teaching experience, you will be practicing concepts from Standards I, II, and III on the Pedagogy and Professional Responsibilities Standards (PPR) with particular emphasis on planning and designing instruction, instructional strategies, informal and formal assessment, and managing the classroom environment. The class is also designed to address the following science Comprehensive 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.

Student Learning Outcomes

The course's learning outcomes will require the student to acquire throughout the semester new knowledge and skills and build upon them. The following table provides a list of the most relevant student learning outcomes for the course.

	Student Learning Outcomes	**Assessments**
	By the end of course, the student will be able to:	*To evaluate these outcomes, the faculty member will use the following assessment procedures:*
1.	Develop an understanding of current issues, practices and directions in science curriculum and the ability to inquire into these.	a. Class participation & discussions b. Quizzes, online discussion and assignments.
2.	Develop knowledge and skills in educational research.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.
3.	Identify and analyze topics of importance in current science education.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.
4.	Deepen their commitment to their pupils' science learning.	a. Class participation & discussions b. Quizzes, online discussion and assignments.
5.	Increase their confidence to teach science.	a. Class participation & discussions b. Class presentations
6.	Improve their ability to manage and assess their pupils' learning. Discover innovative methods of instruction to increase effectiveness and pupils' engagement, learning, and thinking.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.
7.	Improve their capacity to think reflectively and creatively about their science teaching.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.
8.	Increase their capacity to become an agent of change in the field of science education.	a. Class participation & discussions b. Class presentations
9.	Develop knowledge and strategies to design curriculum at classroom and school levels.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.
10.	Differentiate among facts, laws, theories, and hypotheses.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.
11.	Define major concepts, principles, and fundamental theories in at least one area of science.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.
12.	Demonstrate an understanding of the basic terminology in at least one area of science.	a. Class participation & discussions b. Class presentations c. Quizzes, online discussion and assignments.

Course Requirements

- Class Participation and Attendance (10% of course grade): It is expected that all students will be actively and professionally engaged in class discussions and activities. Successful completion of the course depends on regular participation and interaction in classroom and online learning experiences. Students missing a class are responsible for completing any exercises, readings, etc. as well as writing a one-page essay on the readings before the start of the next class. Numerous absences may adversely affect your grade.

- Written Responses (50% of course grade): Discussions, assignments and quizzes document your reflective thinking and learning. These must be submitted by the due date in Blackboard. Each student is expected to complete all readings, exercises, discussion and written assignments. Students missing the due date for an assignment must make immediate arrangements to fulfill that requirement.

- Mid-Term and Final Projects (35% of course grade): Presentation and analysis of a series of integrated, constructivist lessons. You will develop and implement a series of quality science lessons and the in-depth analysis of those lessons. These lessons will demonstrate good curriculum practices and integrate sound pedagogical techniques and educational philosophies. You will also be expected to model these techniques within your presentation and instruction. Written work is expected to be submitted on the due date assigned and in proper written format. This will also include both your midterm and final projects.
- Community Outreach Activity (5% of grade): Students will participate in and provide a 2-3 page reflection paper on a community outreach activity. This activity can focus on any of the following areas: parenting, communicating, volunteering, learning at home, decision making and collaborating within the community.

Grading Criteria

The course will be assessed based on the following criteria:

Activity	**Percentage of Grade**
Quizzes/Discussion/Assignments	50%
Mid-Term & Final Projects	35%
Participation	10%
Community Outreach	5%
Total	**100%**

A: 90% - 100%, B: 80% - 89%, C: 70%-79%, D: 60%-69%, F: <60%

Class Schedule:

Classes will be on Mondays-Fridays from 9:30 to 11:20 AM in room 405 of the Education Building at UTEP during the Summer II Session. Homework will be assigned regularly. The class will be a combination of lecture, guided instruction, classroom discussion, classroom exercises, and project development. Every class meeting is vital. It is the students' responsibility to meet with the professor to arrange an alternative for any class session missed. Cell phones and other forms of electronic communication should be turned off during class meetings.

Date	In-class activities	Online Assignments	Readings
Day 1 July 9th	Introductions/Icebreakers Syllabus Review Blackboard Overview	Use of Blackboard at UTEP for Class materials Discussion 1 - Introduction	Read Chapters 1-2 in **Science for All Americans (SFAA)**
Day 2 July 10th	Science Activity Science Demonstration SFAA F2F Discussion	Quiz 1 - Syllabus and Class Procedures	Read Chapters 3-4 in **SFAA**
Day 3 July 11th	TEKS identification Rube Goldberg Overview	Discussion 2 – The Nature of Science	Read Chapters 5-6 in **SFAA**
Day 4 July 12th	Rube Goldberg Class Presentations Science Demonstration	Assignment 1 - Rube Goldberg	Read Chapters 7-8 in **SFAA**

Date	In-class activities	Online Assignments	Readings
Day 5 July 15th	**Online Class Only** **No Face to Face Meeting**	Discussion 3 - Standards and the TEKS	Read Chapters 9-10 in **SFAA**
Day 6 July 16th	Liberating Structures Activities Classroom Strategies	Assignment 2 – Science Content and Methods	Read Chapters 11-12 in **SFAA**
Day 7 July 17th	TEKS and TAKS Activity Modeling	Quiz 2 - SFAA	Read Chapters 13-15 in **SFAA**
Day 8 July 18th	Mid-Term Discussions Mid-Term Rubric Overview	Student Development (on your own) of Mid-Term Projects	Student Development (on your own) of Mid-Term Projects
Day 9 July 19th	**Mid-Term Projects and Presentations by Each Student**	**Mid-Term Product Submission in Assignments Area**	Read Chapter 1-2 in **The Case for Constructivist Classrooms**

Date	In-class activities	Online Assignments	Readings
Day 10 July 22nd	**Online Class Only** **No Face to Face Meeting**	Discussion 4 - Web Resources for Science	Read Chapters 3-4 in **The Case for Constructivist Classrooms**
Day 11 July 23rd	Physics of Sport Overview of Science Education Web Site	Assignment 3 - Activities and the TEKS	Read Chapter 5-6 in **The Case for Constructivist Classrooms**
Day 12 July 24th	Inquiry Science Fundamentals of Constructivism in Practice	Discussion 5 – Constructivist Classroom	Read Chapters 7-8 in **The Case for Constructivist Classrooms**
Day 13 July 25th	Video, graphic novels and active learning Professional Development Schools (PDS)	Assignment 4 – PDS	Read Chapter 1-2 in **Impact Teaching**
Day 14 July 26th	English Language Learners Developing an inclusive science classroom	Quiz 3 – Constructivist Classroom	Read Chapter 1-2 in **Impact Teaching**

Date	In-class activities	Online Assignments	Readings
Day 15 July 29th	**Online Class Only** **No Face to Face Meeting**	Assignment 5 – Science Instruction	Read Chapters 3-4 in **Impact Teaching**
Day 16 July 30th	Impact Teaching Modern Methods and Pedagogy	**Community Outreach Activity - Submit in Assignments Area**	Read Chapters 5-6 in **Impact Teaching**
Day 17 July 31st	Go over Criteria and Rubric for Final Exam	Final Project Discussion and Preparation	Read Chapter 7 in **Impact Teaching**, be prepared for classroom discussion
Day 18 August 1st	**Final Project and Poster Session Preparation**	**Final Project and Poster Session Preparation**	
Day 19 August 2nd	**Final Project and Poster Session Presentation**	**Final Project following Rubric - Submit in Assignments Area**	All Final Assignments Due

**** You must submit all your course assignments in Blackboard by the assigned dates and times. ****
**** Work will only be accepted through this method and Blackboard should be utilized effectively in order to receive full credit for all class assignments. ****

BED/ELED/MSED 4311 Online Activities – Due Dates Summer II 2019

Online Activity	Date Open	Date Due - Closed
Discussion 1	July 9 at 12:00 PM	July 11 at 11:59 PM
Quiz 1	July 10 at 7:00 AM	July 11 at 11:59 PM
Discussion 2	July 11 at 7:00 AM	July 15 at 11:59 PM
Assignment 1	July 12 at 7:00 AM	July 15 at 11:59 PM
Discussion 3	July 15 at 7:00 AM	July 18 at 11:59 PM
Assignment 2	July 16 at 7:00 AM	July 18 at 11:59 PM
Quiz 2	July 17 at 7:00 AM	July 18 at 11:59 PM
Mid-Term Project	July 19 at 7:00 AM	July 22 at 11:59 PM
Discussion 4	July 22 at 7:00 AM	July 25 at 11:59 PM
Assignment 3	July 23 at 7:00 AM	July 25 at 11:59 PM
Discussion 5	July 24 at 7:00 AM	July 25 at 11:59 PM
Assignment 4	July 25 at 7:00 AM	July 29 at 11:59 PM
Quiz 3	July 26 at 7:00 AM	July 29 at 11:59 PM
Assignment 5	July 29 at 7:00 AM	August 1 at 11:59 PM
Community Outreach	July 30 at 7:00 AM	August 1 at 11:59 PM
Final Project PPT	July 31 at 7:00 AM	August 2 in class
Final Project Write Up	July 31 at 7:00 AM	August 5 at 11:59 PM

Guidelines

- **Dates Due – Open** means that a discussion, quiz or written and uploaded assignment is now available.
- **Dates Due – Closed** means that a discussion, quiz or written and uploaded assignment is closed and no longer available.
- **It is important to pay attention to all due dates and to manage your time and meet the requirements of this undergraduate class as outlined in the course syllabus.**

Assignments

All online assignments are due by the posted time on the deadline date. Late assignments will not be accepted. Please carefully read all instructions for each assignment. Reading instructions is your responsibility and you should meet all due dates and times. Individual assignments will be done in the Assignments area and will need to be posted as .docx, .doc or .rtf files. Occasionally, a PowerPoint will be required as well and will need to be submitted in .ppt or .pptx format.

Quizzes

All online quizzes are due by the posted time on the deadline date. Late quizzes will not be accepted. Please carefully read all instructions for each assignment. Reading instructions is your responsibility and you should meet all due dates and times.

Discussions

For class discussions, you will be communicating in a written format on an assigned topic individually on a given discussion board. The discussion boards are located within this course. You will need to do the readings and go over the lecture notes to be effective in your responses. Obvious use of acquired content knowledge must be incorporated into discussions. Therefore, participation in discussions will reflect not only in your participation grade, but also in the thoroughness of your assignments.

For each discussion topic, each member should have a minimum of 1 individual response (300 words) to the overarching question and 2 individual postings for feedback (50 words) to other class members' comments. The deadlines for discussion postings and replies will be posted online and in the resources section. You must ensure that you meet the deadlines for all of the required discussion postings. If there is nothing submitted, there will be no credit given for the posting.

You will be graded your postings according to the following criteria:

- Did you discuss the topic in a thoughtful way?
- Is the argument discussed relevant to class discussion/readings?
- Do you provide relevant evidence that supports your argument?

Grades will be given on an INDIVIDUAL basis for participation in the group discussions. Do not post your responses to the discussion board as attachments! Please type directly or copy and paste the text into the discussion boards. Assignments can be turned in as attachments.

Instructions for Accessing Your Course Online with Blackboard

You must have an UTEP e-mail ID and password before you can access Blackboard. UTEP automatically generates an e-mail ID for you when you are entered into the system. If you do not have your ID or do not remember the ID or password call the helpdesk first at (915) 747-5257

All the course content will be delivered via Blackboard. You can access Blackboard by following the steps outlined below

- **Go to** http://my.utep.edu
- **Your login is your e-mail ID and your password is your e-mail password**.
- Once you are in the **my.utep.edu** portal, you can find the link to Blackboard near the top of the webpage

In case the above URL does not work, you can do the following:

- Go to http://blackboard.utep.edu
- **Your login is your e-mail ID but your password is your goldmine password**, which is generally a 6-digit number. You need to have an UTEP e-mail ID to be able to access Blackboard.

Once you are logged into Blackboard, you will find all the courses you are registered for, under the appropriate semester. Click on your course title to access the course.

If you have any questions concerning this process, you must contact the UTEP Help Desk at (915) 747-5257 or helpdesk@utep.edu. This is your best and most reliable resource concerning issues related to both the UTEP Web portal and tools including Blackboard.

All course correspondence with the instructor must be done using the tools in Blackboard.

UTEP Policies

Academic Dishonesty

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another person's as ones' own. And, collusion involves collaboration with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Violations will be taken seriously and will be referred to the Dean of Students Office for possible disciplinary action. Students may be suspended or expelled from UTEP for such actions.

Students with Disabilities

If you have or believe you have a disability, you may wish to self-identify. You can do so by providing documentation to the Office of disabled Student Services located in Union E Room 203. Students who have been designated as disabled must reactivate their standing with the Office of Disabled Student Services on a yearly basis. Failure to report to this office will place a student on the inactive list and nullify benefits received. If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the director of Disabled Student Services. You may call 747-5148 for general information about the Americans with Disabilities Act (ADA).