



College of Education and Human Development

HB Syllabus

EDBL 4324 Bilingual and Dual Language Science Methodologies: Elementary Classroom

Course Description

This course is designed to teach methods and approaches for teaching science in the bilingual and dual language classroom. The identification of best practice and effective pedagogical instruction in science inquiry for emerging bilinguals and English Learners will be explored. The instructional materials, resources, and linguistic accommodations will provide the opportunity for meaningful exploration of basic science concepts and science processes in the bilingual and dual language classroom. Assessment of these scientific practices and processes for learning and classroom implementation will be explored.

Student Learning Outcomes/Objectives and/or Course Competencies

Student Learning Outcomes

1. Describe the effects of bilingual instruction support in classrooms.
2. Describe and analyze how content area literacy development in Spanish promotes literacy in the first and second language.
3. Describe and identify appropriate techniques and strategies in the content areas that promote understanding for ELs.
4. Develop and learn academic language of the content area of science that will increase the students' knowledge.
5. Know how to maintain focus on learning, and study the learning process while knowing what strategies and methods to use effectively to extend knowledge.

PPR Standards

- Standard I The teacher designs instruction appropriate for all students that reflects an understanding of relevant content and is based on continuous and appropriate assessment. (1.1k-1.24k, 1.1s-1.22s, 1.24s, 1.29s)
- Standard IV The teacher fulfills professional roles and responsibilities and adheres to legal and ethical requirements of the profession (4.9k-4.12k, 4.5s-4.13s)

Bilingual Supplemental Standards

- Standard VI The bilingual education teacher has a comprehensive knowledge of the development and assessment of literacy in the primary language. (6.1k-6.6k & 6.2s-6.6s)

EC-6 Core 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. (1.1k-1.9k & 1.1s- 1.8s)

- Standard II The science teacher understands the correct use of tools, materials, equipment, and technologies. (2.1k-2.6k & 2.1s-2.11s)
- Standard III The science teacher understands the process of scientific inquiry and its role in science instruction. (3.1k-3.6k & 3.1s-3.11s), Standard IV The science teacher has theoretical and practical knowledge about teaching science and about how students learn science 4.1k-4.14k & 4.1s-4.16s)
- Standard V The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning. (5.1k-5.11k & 5.1s-5.10s)
- Standard VI The science teacher understands the history and nature of science. (6.1k-6.10k & 6.1s-6.7s)
- 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. (7.1k-7.7k & 7.1s-7.6s)
- Standard VIII The science teacher knows and understands the science content appropriate to teach the statewide curriculum [TEKS] in physical science. (8.1k-8.8k & 8.1s-8.13s)
- Standard IX The science teacher knows and understands the science content appropriate to teach the statewide curriculum ([TEKS] in life science (9.1k-9.11k & 9.1s-9.22s)
- Standard X The science teacher knows and understands the science content appropriate to teach the statewide curriculum ([TEKS] in Earth and space science. (10.1k-10.8k & 10.1s-10.11s)
- Standard XI The science teacher knows unifying concepts and processes that are common to all sciences.(11.1k-11.7k & 11.1s-11.6s)

Textbook & Course Materials

• Required Text(s):

Madden, L. (2022). *Elementary Science Methods: An Assets-Based Approach to Teaching, Learning, and Advocacy, Grades K–6*. Rowman & Littlefield.

• Recommended Texts & Other Readings:

Diaz Z., Esquiedo, J., De Leon, L, Almaguer, I., Curts, J. (2010) *Teaching content to Latino bilingual-dual language learners: Maximizing their learning*. Kendall Hunt. ISBN 9781465227782

Cunningham, C. (2018). *Engineering in elementary STEM education: Curriculum design, instruction, learning and assessment*. Museum of Science. ISBN9780807758779

Reyes, S. (2014). *An English-Spanish / Español-Inglés glossary of academic vocabulary for bilingual teaching & learning: La justa palabra*. ISBN-13: 978-0984731725

Course Assignments

Points	Description
10	Attendance
15	Science Lesson Plan
15	Science Journal Reflections
15	Science Notebook
20	Science Unit
25	STREAM Biliteracy Unit

100

Total Points Possible