

TED 6395 Independent Study :
The University of Texas at El Paso
Department of Teacher Education

Spring 2021

Instructor: Dr. Justice Walker

E-mail: jtwalker@utep.edu

Class meets: TBD

Course Description

This course will provide opportunities to learn and practice research strategies in a burgeoning STEM field. It is designed to develop research skills and curriculum design in emerging science, technology, engineering, and mathematics (STEM) fields. Coursework will involve the development and implementation of a research design that adapts a [BioBuilder Educational Foundation](#) professional development curriculum used in high schools around the world. The course will use learning science and sociocultural perspectives on STEM learning.

Key Activities

Key benchmarks for mastery will include:

- (1) research, adaptation, and development of bilingual curricular materials adapted for diverse educator groups (e.g., PowerPoint presentations, activity worksheets, and lab activities);
- (2) development and piloting of research instruments (e.g., surveys and interview protocols);
- (3) interfacing with relevant stakeholders (e.g., research collaborators, Pre/In-Service Teachers, University-based personnel, etc).

Assignments/Due Dates

Assignments	Due Dates	Possible Points
Complete Course Readings	Weekly	10
Draft Study Recruitment Material*	2/2/2021	5
Complete Institutional Review Board Training*	2/9/2021	5

Adapt and Translate Survey Instruments for English and Spanish Speaking Educators*	2/16/2021	10
Adapt and Translate Interview Protocols for English and Spanish Speaking Educators*	2/23/2021	10
Adapt and Translate BioBuilder Lab Manual*	3/9/2021	20
Adapt and Translate BioBuilder Curriculum Materials*	4/6/2021	25
Participate in Relevant Research Group Meetings	Weekly	15
Total		100
*Subject to design iterations.		

Grading Scale

A	100-90
B	89-70
C	69-60
D	59-40
F	39-0

Readings

[Kafai, Y. B., & Walker, J. T. \(2020\). Twenty things to make with biology. Proceedings of Constructionism, Dublin, Ireland, 598-606.](#)

Kafai, Y. B., & Walker, J. T. (2020). Bringing 21st-century science into schools. *Phi Delta Kappan*, 102 (1), 38-41.