



**Curriculum Vita**  
**August 2019**

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Coordinator Secondary/All-level Field Based Student Teaching Program  
LeoTeach Instructor

**Academic Department:** Curriculum and Instruction

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**AREAS OF EXPERTISE**

Curriculum and Instruction: Design and Implementation  
Secondary Education: Preservice Teacher Preparation  
Mathematics Education: Pedagogical Content Knowledge  
Secondary STEM Education: Project Based Learning and Pedagogy  
Secondary Student Teacher Field Supervision

**EDUCATION**

<b>Year</b>	<b>Degree</b>	<b>Major/Minor</b>	<b>Institution</b>
2015	Ph.D.	Curriculum and Instruction/Mathematics & Educational Psychology	University of North Texas
2011	M.Ed.	Secondary Education/ Mathematics Education	Texas A&M Commerce
2007	BS	Interdisciplinary Studies/ Mathematics 4-8	Texas A&M Commerce
2007 - 2019	Texas Teacher Certification	Mathematics 4-8	State of Texas

## PROFESSIONAL TEACHING EXPERIENCE

Begin/End Year	Place of employment	Position/Department
2015-	Texas A&M University-Commerce	Assistant Professor Curriculum and Instruction
2014-2015	Texas A&M University-Commerce	Ad-Interim Instructor Curriculum and Instruction
2011-2014	University of North Texas	Graduate Teaching Assistant/ Teach North Texas
2008-2011	Princeton ISD	6 <sup>th</sup> grade mathematics teacher
2007	Texas A&M Commerce	Math Lab Tutor
2006-2007	St Paul's Episcopal School	Preschool Teacher

## INSTRUCTIONAL ASSIGNMENTS

Texas A&M University-Commerce (2014-present)

Course Title	Times Taught	# of Students	Total Range (1-5, 1 is highest)
SED 300 <i>The Teaching Profession:</i>	3 times	14-24	1.15 – 1.19
The course provides prospective teachers with a beginning foundation for understanding learners, enhancing student achievement, and understanding the teaching environment. The course will emphasize the structure, organization, management, and governance of the American school system and current issues related to the teaching profession. The legal, ethical, and multicultural foundations of teaching will be discussed.			
SED 330 <i>Roles of STEM Educators:</i>	4 times	7-26	1.03 – 1.26
This course introduces the professional body of knowledge necessary for effective teaching as part of the Mathematics/Science Teacher Preparation Program. This course emphasizes methods of organizing and managing a classroom based on an understanding of diverse environments. Teacher skills, which have been proven to be effective in supporting diversity in the classroom, will be developed. The content of this course will center on lesson presentations by students in the field and in the classroom to fellow preservice teachers. Preparations for these lessons will include study of many topics including classroom management strategies, curriculum and lesson planning, teaching models, discipline theories, and certification issues.			
SED 331 <i>Instructional Design in STEM:</i>	2 times	7-26	1.10 – 1.22
This second course in the LeoTeach sequence includes middle school field experiences (i.e., observing master teachers and teaching collaboratively designed lessons to diverse learners). The preservice teachers will develop competence with questioning strategies, two teaching models (direct instruction and Inquiry learning), and use formative assessment data including student artifacts to revise initial lesson plans and further differentiate instruction. Their lesson plans will include modifications for ELL and ESL learners.			

SED 332	4 times	7-26	1.08 – 1.43
<i>Project Based Learning in STEM:</i> This third course in the LeoTeach sequence includes high school field experiences. The preservice teachers will develop competence with the project based learning model through designing and carrying out an exploratory investigation of an integrated lesson. They will create and present a final project suitable for a high school classroom. Experiences with research design, implementation, and data analysis will be the foundation for a teacher inquiry project carried out during SED 330 and SED 331. As part of learning about PBL, they will conduct their own PBL about special education by creating a handbook about special education, plus present authentic findings that answer a driving question presented by professor.			
SED 401	8 times	27-63	1.00 – 1.13
<i>Technology Infused Curriculum and Assessment in Field-Based Environments (in conjunction with SED 400):</i> An experiential component in which future public school teachers design and implement curriculum and model the use of a variety of classroom assessment techniques. The resident teachers will use cutting edge technologies for both creating and assessing lessons. Special attention will center on the alignment of curriculum, instruction, and testing. Prospective teachers will achieve knowledge and skill by observing and assisting middle/secondary public school teachers in classroom situations.			
SED 404	8 times	27-63	1.00 – 1.13
<i>Secondary Teaching Practicum (in conjunction with SED 405):</i> SED 404 – Supervised resident teaching experiences in the secondary school classroom. Regular seminar sessions will focus on the situations, questions, and concerns that arise directly from the resident teachers’ experiences in secondary public school classrooms.			
EDCI/SED 597	2 times - fully online	11-17	May-mini, no record of rating
<i>What Teachers Need to Know About Assessment:</i> Focuses on formal and informal assessment strategies to be used by teachers of secondary students. Topics will include reliability, validity, bias, performance assessment, portfolios, affective assessment, standardized test score interpretation, and formative assessment. Particular attention will be given to practical applications of the assessment of learners within a particular classroom setting and curricular context.			
SED 521	2 times	12-24	1.21-1.32
<i>Models of Teaching Secondary:</i> This course explores the models of instruction, with emphasis on the associated theories of teaching and learning. The course encourages teachers to integrate the models into practice and offers opportunities for research on the connections between teaching and learning theories, cognitive psychology, and educational philosophies.			
EDCI/SED 597	1 time	16	1.15 - 1.19
<i>Integrated Earth Science and Math:</i> The course is designed to meet the following objectives and provide research-based practice experiences based on the 4 strands from <i>Ready, Set, Science!</i> (National Academies Press, 2008) along with research-based practices to create discussion based mathematics and science classrooms. The course content will focus on grades 4-6 selected science and mathematics concepts outlined in the Texas Essential Knowledge and Skills (TEKS) and best practices to incorporate this content and technology into the classroom. While the focus will be on upper elementary and middle school classroom applications, the content level instruction will be at a higher level. Experts in selected topics in science, mathematics, technology, and engineering and will also participate in class instruction.			

## GRADUATE & UNDERGRADUATE STUDENTS

- A. Dissertation Memberships  
Shea Regian, Dissertation Committee
- B. Honors Students  
Claire Callaghan, Thesis Advisor  
Taylor Harden, Thesis Advisor
- C. LeoScholar Awarded  
Chris Hernandez, LeoScholar Supervisor

## EXTERNAL GRANTS

- 2018 Awarded Noyce Grant, #1758395, National Science Foundation (NSF), Co-PI, \$1.2 million
- 2017 Awarded Teacher Quality Grant, Texas Higher Education Coordinating Board, Co-PI, \$105,874
- 2016 Awarded Teacher Quality Grant, Texas Higher Education Coordinating Board, Co-PI, \$150,000

## PUBLICATIONS

### Refereed

#### 2017

Fields, M., Williams, J.J., & Isbell, L. (2017). Changes in preservice teacher beliefs: Indication of Learning. *The Texas Forum of Teacher Education*, 7, 21-27. <http://www.txate.org/assets/pdf-files/forum/2017/forum-2017-fields-williams-and-isbell.pdf>

Fields, M., Regian, S., Sinclair, B., & Naizer, G. (2017). Perspectives change on STEM integration: Or do they?. Paper presented School Science and Mathematics Association: 2017 Annual Convention, Lexington, KY. SSMA.

#### 2018

Fields, M., & Isbell, L. (2018). A culturally candid response: Tale of two professors' reflections. In. Bohan, C. (Ed.) *Curriculum Teaching and Dialogue*, 133 - 135. North Carolina: Information Age.

#### 2019

Fields, M., & Isbell, L. (2019). Remember your 'why' to teaching! 4 strategies to motivate and encourage beginning teachers. *New Teacher Advocate*. Spring.  
[http://digital.watkinsprinting.com/publication/?i=566999&p=10#%22page%22:10,%22issue\\_id%22:566999}](http://digital.watkinsprinting.com/publication/?i=566999&p=10#%22page%22:10,%22issue_id%22:566999)

Williams-Mills, J., Quast, J., & Fields, M. (2019). Mathematics teaching: Constructivist and non-constructivist beliefs of preservice teachers. *ArATE Electronic Journal*. 9(1), 64-72.

## **In Press**

Fields, M., Dixon, K., Isbell, L., Tunks, J. (in press, 2019). Examining the levels of transfer: A closer look at the UTeach preparation program. CSOTTE TxEP.

## **Accepted Book Chapter**

Corp, A., Fields, M., Naizer, G. (2019). Chapter 33: Elementary STEM Teacher Education. The STEM Handbook.

## **Submitted**

Isbell, L., Cranmore, J., & Fields, M. (submitted). High school students' perceptions of teacher preparation programs. *Teacher Education and Practice*.

Watson, C., Van Tassell, F., & Fields, M. Beliefs of mathematics pre-service teachers about project-based learning. *Action in Teacher Education*.

<b>SELECTED PRESENTATIONS</b>
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## **Research Presentations**

### 2018

Fields, M. & Isbell, L., Williams, J. (2018, February). Inquiry-based lessons: Observing preservice teachers progress and understanding perceptions. Southwest Educational Research Association. New Orleans, LA.

Fields, M. & Isbell, L. (2018, October). A culturally candid response: Tale of two professors' reflection. American Association of Teaching and Curriculum (AATC) 25th Annual Conference, Dallas, TX.

Williams, J. & Fields, M. (2018, October). Preservice teacher beliefs about mathematics teaching. American Association of Teaching and Curriculum (AATC) 25th Annual Conference, Dallas, TX.

### 2017

Fields, M. & Williams, J. (2017, October). Preservice teacher early beliefs as indicators of Learning. American Association for Teaching and Curriculum. Denver, CO

Fields, M., Regian, C., Sinclair, B., & Naizer, G. (2017, November,). Perspectives change on STEM integration: Or do they? School Science and Mathematics Association. Lexington, KY

Isbell, L., Fields, M., & Naizer, G. (2017, February). Motivation of preservice teachers classroom development. Southwest Educational Research Association. San Antonio, TX.

## 2016

Fields, M. & Faulkenberry, E. (2016, February). Examining teacher preparation through the lens of transfer of learning. Research Council on Mathematics Learning (RCML). Orlando, FL

## 2015

Fields, M. & Blount, K. (2015, October). Integrating content and pedagogy within and beyond STEM for secondary pre-service teachers. School Science and Mathematics Association, Oklahoma City, OK

## 2014

Fields, M. (2014, February). Support For High School Math teachers Through Induction. Research Council on Mathematics Learning (RCML). San Antonio, TX.

Watson, C., Asim, S. & Fields, M. (2014). Beliefs of STEM Pre-Service Teachers Towards PBI. T-STEM Center Coalition 7th Annual STEM Conference. Dallas, TX.

## 2013

Fields, M. (2013, February). TNT Pre-Service Teachers Perceptions of Teaching: A Qualitative Study Research Council on Mathematics Learning (RCML). Tulsa, OK.

Fields, M. & Tunks, J. (2013, November). Freshman Pre-Service Teachers' Perceptions of Teaching: A Perspective from STEM Majors. University of North Texas Graduate Exhibition Poster Presentation. Denton, TX.

## **Service Presentations**

### 2016

Teaching STEM to in-service teachers via geology-based field experiences. School Science and Mathematics Association, Phoenix, AZ/ syllabus share.

Ratios, Proportional Reasoning, Golden Ratio, Measurement. Conference for the Advancement of Mathematics Teacher, San Antonio, TX/ activities for middle school math teachers.

### 2015

Ratios, Proportional Reasoning, Measurement. Conference for the Advancement of Mathematics Teacher, San Antonio, TX/ activities for middle school math teachers.

### 2014

Integrating children's literature into math classes. Bill Martin Symposium, Texas A&M University-Commerce/ reading activities for elementary and middle school math teachers.

<b>PROFESSIONAL SERVICE</b>
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**Department**

<b>Year</b>	<b>Organization</b>	<b>Office</b>	<b>Assignment</b>
2018 – Current	Secondary/All-level	Coordinator	Program coordination of SED/All-level: seminars, courses, exam approvals, resident placements, content area meetings
2016 - 2017	Secondary/All-level Student Teaching Program	Co-Coordinator	Program coordination of seminars and courses
2014 - Current	LeoTeach Program	Course Lead for SED 330, 331, & 332	Design and plan course instruction for the series of courses for STEM secondary education majors
2014 - Current	Secondary/LeoTeach Committee	Committee Member	Plan student outcomes Discuss course changes Analyze course offerings
2014 - Current	LeoTeach Council	Conference Committee	Plan annual conference
2014 - 2016	Bill Martin Symposium	Conference Committee	Committee Member/Donations and Door Prizes

### **College and University**

<b>Year</b>	<b>Organization</b>	<b>Office</b>	<b>Assignment</b>
2018	2018 A&M Annual Research Symposium	Judge	Judge Oral and Poster Research Presentations
2018	NETCAT Collaboration	Invited Presenter	Presenter to 8 <sup>th</sup> graders about C&I Teacher Preparation Programs
2015-2018	Faculty Development Leave Committee	TAMUC University Committee	Committee Member/Review Proposals for Developmental Leave

### **State and National**

<b>Year</b>	<b>Organization</b>	<b>Office</b>	<b>Assignment</b>
2017-2018	School Science and Mathematics	Invited Reviewer	Reviewed articles

	Association (SSMA)		
2017 - 2019	Research Council of Mathematics (RCML)	Conference Committee	Review Proposals/During Conference Duties
2017	Southwest Education Research Association (SERA)	Invited Reviewer	Reviewed conference proposals
2016 - 2017	Research Council of Mathematics (RCML)	Nominated Position/Conference Committee	Program Co-Chair
2016	School Science and Mathematics Association (SSMA)	Invited Reviewer	Reviewed articles
2016	Connect to Learn Online (C2L)	Reviewer	Reviewed conference proposals
2014-2015	UNT/COE Doctoral Student Association	Vice President	Plan annual conference
2006-2007	Council of Teachers of Mathematics, Texas A&M University-Commerce	President	Lead, acquire scholarships for members

### PROFESSIONAL MEMBERSHIPS

2017-present	American Association for Teaching and Curriculum
2016-present	Southwest Educational Research Association
2015-present	School Science and Mathematics Association
2006-present	National Council of Teachers of Mathematics
2011-present	Research Council on Mathematics Learning
2011-present	Association of Mathematics Texas Educators
2011-present	Association of Teacher Educators

### AWARDS, RECOGNITIONS, & HONORS

2014	Alvin & Lillian Miller Scholarship
2014	College of Education Dissertation Support Grant
2014	College of Education Dean Emeritus Scholarship
2014	Gerald & Leslie Gantzer Scholarship
2012	UNT College of Education Key to Success for North Texans
2011-2014	Academic Achievement Scholarship
2011-2014	Texas Instruments Foundation Scholarship
2007	President's Scholars List, Texas A&M University-Commerce
2004-4007	TxCEPT Scholarship



## PROFESSIONAL DEVELOPMENT

- 2017 Project Based Learning 101, Region 10
- 3 day Buck Institute PBL Training
- 2008-2011 Teacher Quality Grant Participant, Texas A&M University-Commerce
- In-Depth Middle School Mathematics
  - Preparing for Algebra grades 3-8 (120+CPE)
- 2007-2009 Math, Science, Technology Teacher Academy, Texas A&M University-Commerce
- Japanese Lesson Study
  - STEM Integration