TLL 3475 Professional Learning in STEM
Course Syllabus (Hybrid)

Course Co-Instructors:

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Class Meetings:

Online Class: Begins 8/28/2023 on Canvas

Class meetings: Face-to-Face-Four Saturdays: 1:00 pm – 4:00 pm

- September 9, 2023
- October 7, 2023
- November 4, 2023
- December 2, 2023 (online)

Course Description

This course is designed to support graduate students' preparation for future work in STEM education and development for educators. Students will learn the theoretical foundations that underpin current research and practices in teacher education and professional development by exploring big questions around STEM education.

During this course, students should have opportunities to:

- Articulate a **model or vision for STEM education pedagogy**. This should include defining the "components" of practice as well as important relationships among those components and/or contextual elements that impact STEM educators' work.
- Describe, discuss, and compare **theories of STEM learning**.

- Draw from models of teaching practice and knowledge of how educators learn to **design professional development and/or STEM education contexts**. Justify design choices based on models and theories read or discussed in class.
- **Propose ways to study** the efficacy of STEM educators' learning contexts. Describe how such studies will contribute to what is currently understood about STEM educators' learning.

Course Framing Questions

The five questions below frame the core materials (readings, listening, & viewings) and assignments.

- **Framing Question 1:** What is STEM pedagogy?
- **Framing Question 2:** What is the purpose of education, and how does it shape our approach to STEM pedagogy?
- **Framing Question 3:** How do we teach STEM?
- **Framing Question 4:** How do we determine the effectiveness of STEM professional experiences?

Core Materials: Readings, Viewings, and Listenings

Each week you will **read, watch or listen** to the core materials in the modules and respond to specific prompts and guidelines:

1. The readings, listening, and viewings are critical components of this course in the weekly module folders.

2. You will create artifacts that demonstrate your understanding of the core materials. These artifacts could be responses to discussion prompts, independent and small group projects, multimodal content, and peer review activities.

3. Each week starts on Monday and ends on Sunday; you will submit peer review assignments on Fridays @ 11:59 pm and respond to your peers' work on Sundays @ 11:59 pm. The point of the original questions is to initiate *discussion*, not merely to give students a place to put their week's posts. Therefore, unless you are the first one to respond to a weekly prompt, anytime you post an entry, you will be expected to build off of what others wrote before you. Or, if you have something completely different to say, you are encouraged to create a new thread.

4. Each scholarly activity found in the Assignment folders includes specific guidelines. You can access your assignments using the Assignments link using the navigation menu on the left or in the Modules link. You will submit your work to the appropriate assignment in the course by the specified due dates and times.

Course Assignments and Grading

"Classes" run from Monday to Sunday. There are four face-to-face sessions (The remainder of the classes will be conducted online. The assignments requirements and associated due dates are shown in the course summary below the syllabus:

- Discussions (5) - 30%
- Peer reviews (5) - 20%
- Face-to-face assignments- 25%
- Other online assignments- 25%

Your grade will be calculated on a percentage basis (number of points earned out of the possible 100) and assigned a corresponding letter:

Grading Scheme	
Percentage (%)	**Letter Grade**
93-100	A+
93-96	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D
Below 69	F

Course Policies

Participation

Good citizenship is important because much of what you learn or fail to learn is dependent on the nature of the classroom community we are able to construct collectively. Desirable participation is not limited to responding to prompts or "weighing in"; sharing undeveloped ideas and puzzlements with the group as well as responding to your colleagues' ideas, statements, and questions, are considered equally important. Communicating – both talking

(writing) and listening (reading) – is a central part of teaching and, as such, is part of the goal of the course. If it is necessary for you to be absent, please inform the instructor in advance regarding the reason for the absence. We will come up with a plan regarding the missed material.

Relational Responsibilities (Vaught, 2021; Dias, 2022)

To build a respectful and caring learning community, we will adopt Drs. Sabina Vaught's and Dr. Bea Dias' 'Relational Responsibilities' as a practice in this course. Our collective responsibilities are grounded in our interdependent relationships and expressed through our active engagement
with one another and our dedication to learning. We will undertake relational praxes when we

- Before responding to your colleagues, consider our **relational responsibilities** when engaging with our course community.
- Consider how others' experiences are similar or different from your own.
- Recognize and affirm that affective responses to readings and discussions are part of a just intellectual project.
- Engage generously and contribute meaningfully to one another's learning
- We may challenge one another's ideas in a scholarly manner but never insult or disparage one another
- Engage in ways that enhance and strengthen your scholarship
- Attend carefully and attentively to one another's experiences and ideas, recognizing those as gifts to the community

Faculty Communication

You have multiple ways to contact the instructors. You can post your questions in the [Questions and Concerns: Ask Course Facilitators](#) or contact us via email. We will usually respond to your email questions within 24 hours. You can schedule a meeting with Dr. Quigley using this calendly link: https://calendly.com/cquigs/30min. You can contact Dr. Boulder via email to schedule an appointment.

Late Submission of Assignments

Please get in touch with Drs. Quigley and Boulder, if you need extra time on an assignment, ideally before the assignment is due. However, please note that we have peer review assignments throughout the course; if you are late on one of these assignments, we may not be able to assign you a peer review to honor your classmate's time. We may be able to provide you with an alternative assignment.

Writing Standard

The quality of your ideas as well as your presentation, will be taken into consideration when assigning grades. You are expected to produce written documents that are easily read, well organized, clearly understood, grammatically correct, and include no spelling errors. Your grade will be reduced if you fail to attend to these aspects of our written assignments.

University Policies

Disability Services

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services, 140 William Pitt Union, at 412-648-7890 or 412-383-7355 (TTY) as early as possible, but no later than the fourth week of the term or visit the Office of Disability Resources website as early as possible, but no later than the 4th week of the term. DRS will verify your disability and determine reasonable accommodations for this course.

Academic Integrity

Students in this course will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity ([www.cfo.pitt.edu/policies/policy/02/02-03-02.htmlLinks to an external site.](www.cfo.pitt.edu/policies/policy/02/02-03-02.html)). Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include but is not limited to the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators.

Sexual Harassment

The University of Pittsburgh is committed to maintaining a community free from all forms of sexual harassment. Sexual harassment violates University policy and state, federal, and local laws. It is neither permitted nor condoned. It is also a violation of the University of Pittsburgh's policy against sexual harassment for any employee or student at the University of Pittsburgh to attempt in any way to retaliate against a person who makes a claim of sexual harassment. Any individual who, after thorough investigation and an informal or formal hearing, is found to have violated the University's policy against sexual harassment will be subject to disciplinary action, including, but not limited to, reprimand, suspension, termination, or expulsion. Any disciplinary action taken will depend upon the severity of the offense. For more information, see the Web site: [https://www.pitt.edu~provost/har.htmlLinks to an external site.](https://www.pitt.edu~provost/har.html)

Diversity and Inclusion Statement

The course aligns with the School of Education's mission to ignite learning and deliver a respective, inclusive, and equitable learning experience. We behave professionally and communicate mindfully while feeling free to share contrasting viewpoints and ideas. We create an open learning environment for students from diverse backgrounds and perspectives. The diversity denoted by the intersections of race, gender, disability, sexuality, age, socioeconomic status, ethnicity, and culture that we all bring to this course is advantageous in serving as a strength and resource in our learning community. "As the course instructor, I am committed to pedagogy that is anti-racist, non-sexist, non-classist, non-heterosexist, and non-gender-normative. This includes fostering an environment that is as safe and inclusive as possible. [We] intend to name and correct any actions on [our] part that fall short of these commitments as best as possible. The University of Pittsburgh prohibits and will not engage in discrimination or harassment based on race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, disability, or status as a disabled veteran. The University is committed to creating a learning environment inclusive of all races, genders, socioeconomic statuses, religions, sexual orientations, nationalities, and languages." (Roop, L., 2020).

In particular, we are committed to including the voices of minoritized groups in this class, including those of womxn and other people of color, transgender people, LGBTQIA+ people, non-Christian people, non-US citizens, and those who speak multiple languages. Please let us know if you feel uncomfortable due to your social identities and background or how they are perceived. If you do not feel comfortable talking with the instructors, you can contact the Office of Equity, Diversity, and Inclusion.

Preferred Names and Pronouns: You can use the NameCoach feature in Canvas to indicate your preferred pronoun. You can use NameCoach with Canvas to add your pronouns. We will gladly honor your request to address you by your name and pronoun (that may differ from the school records). Please advise me of this preference early in the term so that I may make appropriate changes to my records. You may email us at cquigley@pitt.edu or tboulder@pitt.edu or tell us in person in the class, whichever is most comfortable for you! We want to be sure you feel comfortable in our class community.

Copyright Statement

These materials may be protected by copyright. United States copyright law, 17 USC section 101, et seq., in addition to University policy and procedures, prohibits unauthorized duplication or retransmission of course materials. See the Library of Congress Copyright Office and the University Copyright Policy.

Statement on Classroom Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussions, and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

G-grades

If unforeseen events (such as major illness) prevent a student from timely completion of course work, he/she may request a meeting with the instructor to discuss the possibility of earning a "G" grade for the term. If both student and instructor agree to the "G" grade, they collaboratively write a document that describes, in detail, what the student needs to do to complete the required course work and the time frame (not to exceed one academic year) within which they must do so. Upon receiving all work, the course instructor would evaluate the work and send the Associate Dean a request for the permanent grade.