

INTR-D 175: Step 2 – Inquiry-Based Lesson Design

Syllabus - Spring 2025



Class Times: Mondays, 4:00 – 4:50pm
Classroom: UTeach Room, W4-167

Instructor: Karen M. Crounse
E-mail: karen.crounse@umb.edu
Phone: (617) 775-4087

Office: W4-118
Office Hours: MWF 11:00 – 12:00pm
(or by appointment, in person or on Zoom, just ask!)

Course Overview

This course builds on the ideas and skills from Step 1 to develop and teach inquiry-based lessons in science, technology, engineering and mathematics (STEM). Through activities, readings and discussions, students develop an understanding of best practices in STEM teaching and practice strategies that facilitate learning. Along with a weekly in-class meeting, students apply what they learn in fieldwork, observing and teaching in a Boston middle school STEM class. This course is for any student interested in understanding how people learn math and science, and additionally serves as the second semester introductory course in the UTeach STEM education minor. The goals for the course are that students will be able to:

1. Collect and use formative assessment data to evaluate student understanding of lesson objectives and inform next steps in teaching.
2. Practice instructional strategies that increase student engagement and understanding.
3. Apply ideas from the course in fieldwork, observing and teaching in a middle school classroom.

Class Community

In our classroom, diversity and individual differences are respected, appreciated and recognized as a source of strength. Each student in this class is vital to the success of the classroom community, which is why it is important that we all respect each other, carefully consider one another's ideas and value each other's contributions. Hate, racism, sexism and other forms of discrimination (implicit or explicit) have no place in this community and will not be tolerated. As your instructor, I will do my best to foster a culture of equity and justice. By joining this classroom community, you are committing to sharing your voice, ideas, and fully participating in class to improve understanding for all.

Rights of the Learner:

As a student in this class, you have the right:

1. To be confused and ask questions,
2. To make mistakes and revise your thinking,
3. To speak, listen and be heard, and
4. To enjoy learning.

Fieldwork

You will be assigned to work on a team of 2-3 students for your fieldwork in a Boston school. All team members are required to be present and participate in all lessons. In some cases, observations can be rescheduled on an individual basis, provided the classroom teacher is able to accommodate the change.

Teachers have incredibly hectic schedules, and we are grateful to them for sharing their students with us. Fieldwork schedules will be set at the beginning of the semester based on the teacher and student UMass Boston schedules. This will allow time for students to preserve the dates in their calendars.

Written Assignments

Preview Reading Assignments

Readings provide background information on STEM pedagogy and instructional practices. For these assignments, you will be asked to read an article and respond to short discussion questions before the class discussion. These assignments are important to make sure that you are prepared to participate in class and engage with other students in a productive way. Preview reading responses will be mainly graded on effort. Note: To earn credit for a preview assignment, it must be submitted before class time. (Goals #1 and #2)

Field Work Reflections

After every field experience, whether observing or teaching, you will reflect on the experience in a short paper. Specific prompts will be given to help you connect your experience to the course content. There will be three observations and two lessons. (Goal #3)

Lesson Plans

Teams will revise and create inquiry-based lesson plans based on the needs of their students. A lesson template will be provided. Teams submit a draft lesson plan for feedback and then a final plan before they teach their lesson. (Goal #3)

Grading Policy

The following outlines the minimum needed for each letter grade. Your grade is the highest letter for which you meet ALL the requirements in the table below.

Course Goal	A	B	C
Goal #1 and #2: Instructional Strategies (Readings, Class Activities)	80%	75%	65%
Goal #3: Field Work – Assignments (Lesson plans, Reflections)	90%	80%	70%
Goal #4: Field Work Completion Two lessons and three observations	All	All	All

Syllabus

Date	Class Activities	Field Work/Assignments Due
1/27	Welcome and Introductions Step 1 Review Schedule Information	
2/3	Middle School Students	Preview Reading: Middle School Students
2/10	Assign fieldwork teams Teach #1 Lesson	
2/24	Formative Assessment Cycle: Writing Objectives Teach #1 Planning	Observation #1 Preview Reading: Formative Assessment and Writing Objectives Draft Teach #1 Lesson Plan due 2/28
3/3	Observation #1 Reflection Writing Exit Tickets Teach #1 Planning	Observation #1 Reflection due one week after observation Final Teach #1 Lesson Plan due 3/7
3/10	Teach #1 Practice	Teach #1
3/24	Teach #1 Reflection Back to Formative Assessment - Data Analysis	Observation #2 Preview Reading: Data Analysis Teach #1 Reflection due one week after lesson
3/31	More Data Analysis Planning Next Steps	Observation #2 Reflection due one week after observation Team Data Analysis due 4/4
4/7	Observation #2 Reflection Teach #2 Planning	Observation #3 Draft Teach #2 Lesson Plan due 4/11
4/14	Teach #2 Planning Teach #2 Practice	Observation #3 Reflection due one week after observation Final Teach #2 Lesson Plan due 4/18
4/28	Wait Time More Teach #2 Practice	Teach #2 Preview Reading: Wait time
5/5	Teaching as a career	Teach #2 Reflection due one week after lesson

Date	Class Activities	Field Work/Assignments Due
5/12	Course Wrap Up	Final Assignments due by Friday, 5/16

Accommodations

Sections 504 and the Americans with Disabilities Act of 1990 offer guidelines for curriculum modifications and adaptations for students with documented disabilities. If applicable, students may obtain adaptation recommendations from the Ross Center (287-7430). The student must present these recommendations to each professor within a reasonable period, preferably by the end of the Drop/Add period. If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please contact the Ross Center for Disability Services. The Ross Center for Disability Services is located in the Campus Center, UL 211. You can contact them by calling: 617-287-7430 or sending an email to: ross.center@umb.edu. Once you have received your accommodation letter, please meet with me to discuss it as soon as possible. I want to support you the best way I can!

A Note about Collaborative Work versus Dishonesty

In this class, you be writing written responses to readings. In addition, you will frequently be asked to work with other students both in and out of class. In these instances, feel free to explore ideas together, but be sure that your final product, usually in written form, is something that represents your individual thinking. If your work and the work of another student or students is substantially similar, this suggests that only one person did the thinking. In this case, no credit will be given to anyone involved. For any written work, you will not receive credit for work that is not your own. This includes work created by an AI tool. The UMass Boston Student Code of Conduct defines dishonesty (cheating or plagiarizing) and the serious consequences that may ensue. You may find the complete code in your student handbook or the university website at: http://www.umb.edu/student_services/student_rights/code_conduct.html

Health, Wellbeing and Success

UMass Boston is a vibrant, multi-cultural, and inclusive institution committed to ensuring that all members of our diverse campus community are able to thrive and succeed. The university provides a wide variety of resources to support students' overall success.

- Are you in emotional distress? Call 617.287.5690 to speak with a licensed clinician 24/7 who can offer support, crisis recommendations, and assistance with finding resources.
- Have a campus question or issue? Use Here4U in the UMass Boston app or via www.umb.edu/here4U.
- Want advice in navigating a university or life situation? Contact the Dean of Students Office at www.umb.edu/deanofstudents.
- Want to connect with housing and food insecurity support, student life groups and events, or recreation activities? Visit [Campus Life - UMass Boston \(umb.edu\)](http://www.umb.edu/campus-life).
- Want to access resources specifically for immigrant-origin, DACA, TPS, and undocumented students? Visit [Immigrant Student Programs - UMass Boston \(umb.edu\)](http://www.umb.edu/immigrant-student-programs).
- Looking for additional identity-based community support? Find more resources at [Inclusive Identity - UMass Boston \(umb.edu\)](http://www.umb.edu/inclusive-identity)
- Want to make the most of your academic experience? Visit [www.umb.edu/academics/vpass/academic_support](http://www.umb.edu/academics/vpass/academic-support).

- Unable to attend class on a specific date or participate in an exam or class requirement due to a religious observance? Fill out the excused absence form (requires 2-weeks' notice) to request religious accommodation at [Right To Excused Absence Because Religious Belief - UMass Boston \(umb.edu\)](https://www.umb.edu/right-to-excused-absence)