



MODEL TEACHING®
Education for Better Educators

Claim-Evidence-Reasoning (CER) In The Science Classroom

COURSE SYLLABUS



MODEL TEACHING

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2 Semester Credits

Course Credit Provided Through Our Partner,
University of Alaska Anchorage

Course Offered in Partnership With University of Alaska Anchorage

UNIVERSITY PARTNER	CREDITS	REGIONAL ACCREDITATIONS	COURSE NUMBER
 UNIVERSITY of ALASKA ANCHORAGE.	2 Graduate-Level Semester Credits	Northwest Commission on Colleges and Universities (NWCCU)	TBD

Clear, Template-Based Course Format.

We know teachers are busy. That's why we make our course format as straightforward as possible.

- ✓ **Template-based assignments with no long essays** – we want you to focus on the learning content seamlessly and hassle-free. You'll get high-quality learning without wasting time on long, open-ended essays.
- ✓ **No busy work** – our template prompts are designed to give you an easy way to showcase your learning so you can focus more on the content and come away with a plan of action.
- ✓ **Streamlined & standardized course format** – from video lessons to built-in live chat with our instructors; once you complete one course with us, you will know exactly what's expected for the rest of your courses.



Fast & Convenient. Start Immediately & Work At Your Own Pace.

On a tight timeline? We can help! With ultra-fast credit/transcript processing and rolling credit processing, you can make your salary advancement deadline.



- ✓ **Pick your courses & get started** – start immediately or wait to begin in the semester of your choice.
- ✓ **Ultra-fast credit & transcript processing** – get your transcripts fast. We will help you meet your salary advancement deadline.
- ✓ **1 full year of course access** – you will have a full year to choose and work on your courses. Our course bundles allow you to control when you begin your learning and in which semester.
- ✓ **100% online** – with our video-based lessons and content, you will not have to wait for textbooks or specific start times. You can begin your learning as soon as you register!

COURSE TITLE:

CLAIM- EVIDENCE- REASONING IN THE SCIENCE CLASSROOM



Credit/ Hours: 2 Graduate-Level Semester Credits

Credit- hour equivalency. This course is a 2-credit hour course that consists of 30 hours of in-seat time. Model Teaching courses can be completed at your own pace, and your transcript will reflect the semester in which your credits are processed. Courses include reading content, watching content videos, reviewing resources, and participating in activities throughout the course. See the Course Outline later in this syllabus for a detailed look at the course structure and components.

Each Model Teaching-partnered University is regionally accredited and offers continuing education courses to educators. These courses are post-baccalaureate credit courses that are designed primarily for professional development, salary advancement, and license renewal purposes. All credit- granting online university partnered courses taken through Model Teaching will include access to graduate- level semester credits with an official transcript and letter grade.

COURSE DESCRIPTION

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In this course you will learn how to apply a CER strategy to science concepts for any K-12 science-based activity. Learn to plan for student claims, design evidence aligned to a guiding question for your activity, as well as plan for the student reasoning responses. You will also learn how to apply design scaffolds and modifications to your lessons to better teach and communicate the CER process, and you will be provided with all the student tools and worksheets you need to effectively implement CER. You will apply these ideas to an implementation process through an action plan design, resource development and analysis of research to view applicability in the classroom. A final implementation plan will allow you to showcase how you plan to specifically implement course ideas into a current or future classroom.

COURSE OBJECTIVES

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Participants will be able to:

- i. Define and implement the Steps in Designing an Effective CER Lesson and Receive all the Resources you Need to Teach CER in Your Classroom
- ii. A Step-By-Step Approach & Tools Needed to Implement CER-Based Science Instruction & Activities in Your Classroom
- iii. Learn How to Assess Student CER Responses & Provide Effective Feedback That Encourages Student Growth
- iv. Design an action plan for a future classroom
- v. Design a supporting resource that helps support the CER process and then plan for implementation of the resource alongside the action plan
- vi. Analyze research that supports the use of strategies and activities to improve the inquiry and learning process within CER, and examine how the research impacts the classroom

COURSE OUTLINE

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Section 1 Instructional Content

Lesson Delivery: An Introduction to CER. Completion of the content video, readings, and resources review.

Quiz: Questions to check for understanding of the section content. Quizzes are automatically scored and provide detailed feedback on answer choice rationale.

Section 2 Instructional Content

Part 1

Lesson Delivery: The Claim. Completion of the content video, readings, and resources review.

Discussion Board Reflection: Selection of a science topic and standard, a question, and three potential claims for an upcoming science lesson.

Part 2

Lesson Delivery: The Evidence. Completion of the content video, readings, and resources review.

Discussion Board Reflection: Analysis of the data required for students to complete the claims developed in part 1.

Part 3

Lesson Delivery: The Reasoning. Completion of the content video, readings, and resources review.

Discussion Board Reflection: Identification of challenges students may encounter as they develop their reasoning statements.

Quiz: Questions to check for understanding of the section content. Quizzes are automatically scored and provide detailed feedback on answer choice rationale.

Section 3 Instructional Content

Lesson Delivery: Writing CER Questions. Completion of the content video, readings, and resources review.

Discussion Board Reflection: Refinement of the original question from section 2 part 1 into a question that meets the checklist criteria for writing a strong CER question.

Section 4 Instructional Content

Lesson Delivery: Modifications for CER. Completion of the content video, readings, and resources review.

Discussion Board Reflection: Identification of student challenges and modified activities and support that can be provided to help promote student understanding of the science lessons.

Section 5 Instructional Content

Lesson Delivery: CER Implementation. Completion of the content video, readings, and resources review.

Discussion Board Reflection: Select and reflect on one strategy to assist in implementation of an upcoming CER lesson.

Putting it All Together

Action Plan: Completion and Submission of a CER Lesson Plan Template, and reflection on areas of challenge and methods required for strong implementation into the classroom. An action plan template and a sample will be provided to you to assist you in completing this module.

Applying What You Have Learned

Further Reading, Videos, and Resources: Review additional resources, tools, and suggested reading that focuses on how the CER process concepts apply to students in the science classroom.

Resource Design: Creation of a specific resource that is related to supporting the reasoning process for an upcoming science principle you plan to teach. After your action plan design, you will analyze the required components for implementation success and select areas for resource development critical for consistent implementation. After analysis of suggested resources and articles referencing components of your action plan, design and upload a resource specific to support your success in implementation, as well as success in student interaction with assessment items in an upcoming unit. A resource design planning template will be provided to guide in rigorous and applicable final resources. Instructor feedback provided. You will upload a self-

created resource specific to support ideas for implementation of course concepts. A resource design planning template will be provided to guide you in the resource design process.

Research Connections Reflection: Reading and analysis of peer- reviewed research, cited academic books, or cited educational articles aligned to course concepts. An analysis template will be provided to assist you in guiding your thinking and analysis and can be used as an outline for your submitted response.

Implementation Tasks: Review a recap of the course content and takeaways from the course, then plan for what implementation of course concepts in the classroom might look like. You can choose to implement your ideas, request a colleague to analyze your ideas, or self- reflect on your ideas for implementation.

Implementation Project Plan: Compile all content ideas from the course and plan a series of action steps to describe implementation. A Final Implementation Planning Template will be provided to help you plan the critical components to consider for implementation, and to aid you in your final response which will also include a reflection and summary of the ideas in the course.

MODEL TEACHING RESOURCES INCLUDED IN THIS COURSE

These resources, tools, & templates are designed to help you utilize and implement the course concepts in your classroom.

- ✓ CER Reference
- ✓ Activity Alignment Checklist
- ✓ Student Reasoning Organizer
- ✓ Question Checklist Tool
- ✓ CER Modification Template
- ✓ CER Grading Rubric
- ✓ CER Activity Template
- ✓ CER Card Sort Tool
- ✓ Reasoning Challenges Reference Sheet
- ✓ Question Writing Template
- ✓ CER Student Graphic Organizer
- ✓ CER Lesson Plan Template
- ✓ Evidence Reference Guide
- ✓ CER Evidence Template
- ✓ Reasoning Template
- ✓ CER Modification Reference Guide
- ✓ CER Discussion Guide
- ✓ Effectiveness Rubric
- ✓ Unit Assessments Overview Plan and Sample
- ✓ Supplemental Resource Design Template
- ✓ Article Analysis Template
- ✓ Classroom Implementation Plan



REQUIRED EXTERNAL RESOURCES

N/A. All articles, resources, and instructional content are provided within the course modules.

CREDIT HOUR CALCULATIONS

	Estimated Contact Time/ Seat Time (hrs)
Instructional Content (Course lessons, quiz, discussion)	19
Action Plan Project & Feedback	3
Resource Design & Feedback	2
Research Connections Writing & Feedback	4
Final Implementation Project Plan & Feedback	2
Total Hours:	30

GRADING

Grading Breakdown for this Course:

Module	Points
Quizzes (10 points each)	20
Discussion Board Reflections (10 points each)	60
Action Plan	100
Resource Design	50
Research Connections	50
Final Implementation Project Plan	100
Total	380

This course provides a letter grade using a ten-percentage point grading scale. A grade of A= 90%-100% You must earn 342 points or higher in this course to receive an A. A grade of B= 80%- 89%. You must earn 304 points to 341 points in this course to receive a B. A grade of B or higher is required for credit. A grade of unsatisfactory is any score below 80% or 304 points and does not provide credit.

Grading rubrics can be downloaded in the introduction module of each course within your course dashboard or at the link here: <https://www.modelteaching.com/rubrics>

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COURSE SUBMISSIONS

All submissions must be performed within the Model Teaching course platform. If you need assistance in submitting assignments, please contact us.

TECHNOLOGY REQUIREMENTS

Courses are held 100% online. You should have access to a compatible web browser (such as Google Chrome, Microsoft Edge, Apple Safari, and/or Mozilla Firefox) and a word processing tool or reader (such as Microsoft Word and/or Google Docs). While our course platform does support mobile devices, for the best user experience, we recommend using a desktop or laptop computer to complete courses. You can review our technology requirements along with other frequently asked questions at our FAQ page here: <https://www.modelteaching.com/faq>

TECHNICAL QUESTIONS

If you need personal assistance or have technical questions, you can contact us by accessing the support feature built into our course platform, chat with us online, email us at courses@modelteaching.com, or chat with us at www.modelteaching.com.

COMPLIANCE WITH THE AMERICAN DISABILITIES ACT

In compliance with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act, any participant that has a permanent or temporary condition that might affect their ability to complete the course should contact us at courses@modelteaching.com upon enrollment. We will make reasonable accommodations or modifications to the course.

ACADEMIC INTEGRITY

Participants are responsible for fully interacting with the course content, modules, resources, readings, and assignments. All responses, projects, and other assignments are the sole responsibility of the course participant, and plagiarism or cheating are not tolerated. Submissions should be your own work and design, and all submissions and assignments should be completed independently. Any outside sources should be properly cited. If you have questions about what constitutes plagiarism or cheating, you should contact us at courses@modelteaching.com.

Why Model Teaching?

Courses Focused on Relevant Teaching Content That You Can Actually Use

We focus our professional development courses on what's important to you: relevant content focused on specific teaching strategies & evidence-based instructional best practices. Earn pre-approved PD hours and regionally accredited academic credit through our university partner, University of Alaska Anchorage.

Clear, Straightforward Lessons Designed by Experienced Educators

Our courses provide high-quality content in a format that makes it easy for developing teachers to learn new skills and methods for use in their own classroom. Our courses are designed to provide effective professional development for busy teachers in a format that makes learning easy.

Comprehensive, Ready-To-Use Resources, Tools, & Templates Provided With Every Course

Each course comes with a variety of resources, tools, graphic organizers, activities, student lesson content, and lesson templates you can use to immediately implement your new training in your own classroom. If not teaching, simply save your resources for future use.

Immediately Implement What You Have Learned

For teachers who are currently teaching, we provide step-by-step support and real-world examples that you can use immediately in your classroom or school, along with implementation resources. Not teaching? No problem! You do not have to be currently teaching to take our courses.

What are Model Teaching Courses Used For?

- ☑ Salary Advancement
- ☑ Teaching License Renewal
- ☑ Instructional Improvement
- ☑ Great for Current Teachers & Teachers Not Currently Teaching



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EDUCATION FOR BETTER EDUCATORS

THIS TRAINING COURSE WAS INCREDIBLE. MY LEADERSHIP TEAM LEARNED SO MUCH ABOUT THEMSELVES AND WHAT WE NEED TO DO ON OUR CAMPUS. I WANT MY ENTIRE STAFF TO HEAR THIS MESSAGE!

-PRINCIPAL

I AM FINDING ALL YOUR COURSES USEFUL, BUT THIS ONE IS CLEARLY MY FAVORITE SO FAR, MOSTLY FOR THE WAY I WAS ABLE TO PUT SO MANY OF MY OWN IDEAS INTO THE LESSON WHILE STILL FEELING I HAD ACCOMPLISHED ALL THAT WAS REQUIRED. WELL DONE!

-ELEMENTARY TEACHER

WHAT YOU PRESENTED IN [THIS COURSE] IS NOW PART OF MY GOALS AND ACTION PLANS FOR THE SCHOOL YEAR. I'M SO EXCITED TO PUT THESE TO USE!

-ELA TEACHER

WITH SUCH A BUSY SCHEDULE, IT'S HARD TO IMPLEMENT NEW STRATEGIES AND TECHNIQUES BUT THIS COURSE MADE IT SO EASY! THE COURSE GAVE ME GREAT IDEAS ON HOW TO USE COLLABORATIVE LEARNING GROUPS WITH MY STUDENTS AND THE RESOURCES AND PLANNING DOCUMENTS MADE IT EFFORTLESS TO GET STARTED!

-SCIENCE TEACHER

FOR A FULL LIST OF CURRENT REVIEWS, PLEASE VISIT:

www.modelteaching.com/latest-course-reviews

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16107 Kensington Dr #175
Sugar Land, TX 77479



888.828.7950 x1



www.ModelTeaching.com



courses@modelteaching.com

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