



## Teaching Mathematical Common Core Standards Successfully

### Mathematical Practice Standard #3

EDUO 9544 One Semester Unit/Credit

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### Course Syllabus

#### Course Overview

This course guides the teacher towards information that will help in the successful preparation, implementation and evaluation of a classroom lesson that fulfills mathematical practice #3 (Make sense of problems and persevere in solving them.)

#### Course Objectives:

Relating to the Common Core **Mathematical Practice Standard #3**, the teacher will be able to:

1. explain the standard to people of varying abilities, ages & education
2. use different materials to teach the standard
3. develop an effective time line within a teaching plan
4. create assessment processes that evaluates the ability of the students to grasp the standard
5. analyze this class experience as to how well it helped prepare to teach the mathematical standard

#### Course Relation to CCS or other Professional Standards

[CCSS.MATH.PRACTICE.MP3](#) Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

## How to Submit Coursework

Each completed assignment in this course is submitted to the instructor for review. Follow directions at the end of each assignment on how to prepare and in which Moodle Dropbox to place completed work. Name each file submitted with your last name and (i.e. BrownAssignment). Make sure you place your full name, course number at the top of each document page. You will receive feedback from your instructor within 5 days indicating successful completion of the assignment or the need for revision. Assignment grades will be averaged for the final course grade.

Grading assessment rubrics for written projects and for presentation projects are found in this document.

## Course Assignments

**Please submit all assignments in one document to the course dropbox.**

### Assignment 1: Showing Understanding

After reading and studying the following websites answer 1a, 1b, and 1c

- <http://www.corestandards.org/Math/Practice/>
- <https://www.scholastic.com/teachers/blog-posts/meghan-everette/guide-8-mathematical-practice-standards/>
- <http://www.insidemathematics.org/common-core-resources/mathematical-practice-standards/standard-1-make-sense-of-problems-persevere-in-solving-them>

- 1a. – 1c. Write out a brief but appropriate explanation of Mathematical Practice #1 to each of the following:
- a. the students in your class
  - c. a colleague

After looking over the following websites, answer 1d.

- <https://www.google.com/search?q=mathematical+practice+standard+1&tbm=isch&tbo=u&source=univ&sa=X&ei=ZBaNVKO3J5GxogThkIKwDg&ved=0CFAQsAQ&biw=1175&bih=834>
- <http://www.debbiewaggoner.com/math-practice-standards.html>

- 1e. Which one of the seven website resources helped you the most in understanding standard #1? Explain.

### Assignment 2: Lesson Plan

Follow the parts 2a-2e below to create a mathematical practice #1 standard lesson plan.

#### 2a. Description of Students/Class

Describe the students for whom this lesson plan is intended. This may be for an actual group of students, or it may be for a future class. This description should include some or all of the following: academic and language abilities, learning modalities, different intelligences, cultural differences, maturity.

#### 2b. Classroom Management

2b.1 what classroom management and community building strategies will you use for providing a safe classroom that will encourage risk taking?

## 2c. Elements of the Plan

Identify elements listed below that will be used in this teaching plan. Provide description and examples of how each of them will be woven throughout the plan and how each relates with the others in teaching the math standard. In addition, relate each element to 2a (students), & 2b (management). If any of the elements listed below (except 2c.5) are not used, explain why.

2c.1 Text books

2c.2 Materials and resources (print, video, audio, online, visual, other)

2c.5 Other

## 2d. Assessment

2d.1 strategies used to assess pre-knowledge

2d.4 how will you use the results of the assessments in 5.1-3 to design future classroom planning?

## 2e. Instructions

Write out instructions so another teacher can easily follow this lesson plan without additional communication.

## Assignment 3: Critique of the Overall Experience

Situation: You have become known for your ability to teach the Common Core Mathematical Practice Standard #1. Your professional organization has asked you to be on a panel of eight teachers. Each will give a short discourse on one of the Mathematical Practice Standards. For assignment 3, write the introduction and conclusion of your address and outline the body of your talk and relate how this class helped you to become a recognized expert.

### 3a. Introduction

### 3c. Conclusion

## Course Assessment Rubric

<b>Exceeds Expectations Exemplary: A+ to A-</b>	<b>Meets Standards B+ to B-</b>	<b>Unacceptable: resubmit</b>
Excellent understanding of the mathematical standard is shown.  Lesson plan is thorough and teaches the standard and provides students the opportunity to use the principals of the standard outside the classroom.  The assessment processes well easily evaluate the degree in which the students understand the mathematical standard and will indicate specific areas that need improvement. The class evaluation is thoughtful, meaningful and memorable.	Understanding of the mathematical standard is shown.  Lesson plan is thorough and teaches the standard.  The assessment processes evaluate the degree in which the students understand the mathematical standard.  The class evaluation is adequate.	Shows little or no understanding of the mathematical standard.  Lesson plan is incomplete and does not adequately teach the standard.  The assessment processes do not relate to the understanding of the mathematical standard.  The class evaluation is disorganized and meaningless.

- You are allowed 9 months to complete the course. Course questions? Contact your instructor by email.
- For questions involving your registration please contact us at [support@dominicanCAonline.com](mailto:support@dominicanCAonline.com) or call (800) 626-5080. To change your address, link to your Dominican Store account at [https://www.dominicanaonlinestore.com/store/index.php?main\\_page=login](https://www.dominicanaonlinestore.com/store/index.php?main_page=login)
- For Dominican Self-Guided course information, link to <http://dominicancaonline.com/Dominican-CA-Online-FAQ>