

## CSUP Graduate Education Course Syllabus

### Gifted Math Concepts : Math Wonders

#### ED 501 CLDE

#### Catalog Description:

This course will help teachers engage students in advanced math lessons and activities that encourage them to explore mathematical principles that are complex and fun to use. The book contains an amazing collection of quirks, illustrations, problems and surprises that engage learners. This book uses attention-getters, motivators, and enrichment activities that keep students exploring mathematical mysteries. Teachers will learn how to apply a variety of mathematical teaching concepts and complex or creative math problems for advanced learners. As well as to help students use the book content to advance their mathematical inquiry, problem solving and creativity Students will develop a written paper, lessons or activities for classroom applications to help students remember math content. (3 credits)

**Course Format:** Distance learning, independent Study Grad Course for working teacher license renewals.

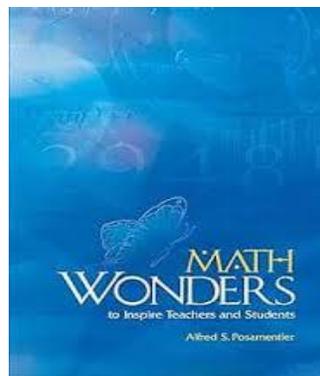
**Instructor:** Joseph C'deBaca MAED [joseph@teacherslearningcenter.com](mailto:joseph@teacherslearningcenter.com) phone 727-273-4852

**Required Text:** . Math Wonders to Inspire Teachers and Students by Alfred Posamentier (2003)  
Alexandria, VA: ASCD Publishers. 270 pages.

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**Course Objectives:**

1. Educators will remember the various concepts, lessons and activities that stimulate and challenge advanced students with challenging complex mathematical concepts and problems.
2. Participants taking this course will learn how to apply a variety of mathematical teaching concepts and implement complex or creative math problems for advanced learners in classrooms.
3. Educators will learn and apply numerous mathematical lessons that are different and provide creative challenges and problems solving activities for both teachers and students.
4. Participants will study and utilize a variety of mathematical teaching strategies and implement various advanced activities for classroom instruction and applications.
5. Educators will create writings about math learning theory, and they will develop lesson or unit plans using the strategies or activities from the book in their classroom.

Student Learning Outcomes: (SLOs): This course addresses the following student learning outcomes rated 1=Basic, 2=Developing, 3=Proficient, 4=Advanced

Educator Student Learning Outcome	Degree Addressed
1. Demonstrate growth in content knowledge related to teaching assignments and application of content knowledge to classroom instruction & assessment.	3
2. Understand scientifically based practices in teaching and learning, including strategies in literacy education, instructional technology, differentiation of instruction, and apply them to raise student achievement.	2
3. Demonstrate multiple means of assessing and evaluating student learning and use them to change teaching and learning.	2
4. Locate, interpret, synthesize, and apply educational research in best practices in teaching.	2
5. Understand models for professional change, including teacher collaboration, professional learning communities, strategies for mentoring and coaching to facilitate change, and effective professional development.	1
6. Demonstrate understanding of reflective practice that results in improved classroom teaching and learning, including teacher reflection, use of technology in self-assessment, collaboration for change, and self-management of change.	2
7. Demonstrate understanding of system and organizational change in education, including models for school change and current research and trends in school change.	1
8. Demonstrate responsibility for students learning at high levels.	3
9. Demonstrate responsibility for school reform and leadership in school change.	1

**Course Requirements:**

Read the book: Math Wonders to Inspire Teachers and Students by Alfred Posamentier . Write chapter Reviews/Reflections for each of the chapters in the book. Research the topic using the internet, journal articles or information and then write a Research Article Review regarding the various issues related to the course. Develop a project/activity that can be used in the classroom or educational setting. Then design and write a lesson/unit plan utilizing various concepts in the book. Write a three-page Final Application Essay summarizing key dynamics from the course. Focus your writings and activities on the content or strategies from the course experience. Write about how you can apply them to your teaching methods, instructional practice and classroom or school environment. See assignment criteria Rubrics below. Utilize SLO's in writings.

**Course Requirements:**

1. Chapter reviews/reflections
2. Research Article Review
3. Lesson or Activity
4. Final Application Essay

**Student contact Hours Course Work Time 3 credits.**

<b>Requirement</b>	<b>Points</b>	<b>Student (hours)</b>
Reading Textbook (270 total pages) Large Book	20	22.5
Write Chapter Reviews/Reflections	30	30.0
Design Lesson Plan or Activity/Project	10	10
Write Research Article Reviews	20	25
Final Application Essay	20	20
Total	100	112.5

**Attendance/Participation:**

Educators will choose and order their course/s at the CSUP website or [www.teacherslearning.com](http://www.teacherslearning.com) and enroll and pay. They will receive their Course Startup documents via email and the course books will be sent by mail by Amazon or the post office. Teachers will study their syllabus and start reading and writing their assignments. They will be in contact with their TLC Instructor for guidance and support. The Independent Study and Self-Paced format allow working teachers flexibility and freedom to learn.

**Term Dates:**

Enrollment periods will appear on the students' transcripts. Thus, enroll in the term that you wish to See on your transcript. **Spring** – January 2<sup>nd</sup> to May 15<sup>th</sup> **Summer** – May 16<sup>th</sup> September 15<sup>th</sup>  
**Fall** – September 16<sup>th</sup> – December 31<sup>st</sup>

**Grading:** Grades automatically revert to an "F" if the course is not completed within a year.

<i>Percentage</i>	<i>Grade Level</i>	<i>GPA</i>
<i>100% to 90%</i>	<i>A</i>	<i>4.0</i>
<i>89% to 80%</i>	<i>B</i>	<i>3.0</i>
<i>Not Allowed</i>	<i>No "C" grades</i>	
<i>Assignment</i>	<i>One Redo</i>	

**Chapter Review/Reflections:** Write several paragraphs summarizing the main ideas or information you thought was significant from 10chapter in the book. Paraphrased below. Paragraph bullet points of main issues are acceptable. See rubrics below for guidelines. Utilize above SLO's in your writings

1. The Beauty of Numbers
2. Some Arithmetic Marvels
3. Problems with Surprising Solutions
4. Algebraic Entertainments
5. Geometric Wonders
6. Mathematical Paradoxes
7. Counting and Probability
8. Mathematical Potpourri

**Writing Format** Use size 12 font size and 1.5-line spacing, **Bolded** headers and titles. Feel free to use your own styling format or an APA/MA writing style format.

**Email Assignments to:** [teacherslearningcenter@gmail.com](mailto:teacherslearningcenter@gmail.com) in 1 or 2 Word docs. all together when they are all completed. Not individually. Instructor: Joseph C'de Baca 727-273-4852

**Grading**

Chapter Reviews & Reflections	40	90 - 100 = A
Research Article Reviews	30	80 - 89 = B
Leson or Project or Activity	20	70 - 79 = C
Application Essay	<u>10</u>	60 - 69 = D
		0 - 59 = D
<b>Total 100</b>		Grade B or better required

**Rubrics: Course Assignment Rubrics Chapter Reviews/Reflections**

Chapter Reviews	Basic (30 pts.)	Proficient (40 pts.)	Advanced (50 pts.)
Read the book and write chapter review-reflections for each chapter in the book.  Write 3 to 4 paragraphs summarizing the ideas, knowledge, and	Writes a basic narrative of the chapters' contents.	Writes a general narrative of the chapters' contents with limited personal reflection.	Writes a complete narrative of the main points of each chapter.  Writes personal reflections that include the student's experiences with these

<p>information that you thought was significant from each chapter.</p> <p>Write your own personal experiences and reflections about concepts that were enlightening and applicable to teaching.</p> <p>Expanded bullet points of main issues are also acceptable.</p> <p>Include your personal experiences, ideas, and critical analysis.</p>	<p>Includes major points expressed by the author.</p> <p>Includes at least one book citation or example.</p>	<p>Expresses major points of each chapter.</p> <p>Writing includes any state, district, or national academic standards that apply.</p> <p>Includes experiential examples.</p> <p>Error Free</p>	<p>issues as they relate to their personal classroom experience.</p> <p>Expresses major points of each chapter and provides in-depth elaboration.</p> <p>Includes any state, district, or national academic standards that may apply.</p> <p>Includes critical analysis of the course's positive and/or limiting content and offers solutions as they apply to teaching applications in schools.</p>
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### Research Article Review Assignments Rubric

<b>Article Review</b>	<b>Basic (10 pts)</b>	<b>Proficient (15 pts)</b>	<b>Advanced (20 pts)</b>
<p>Research course topic and locate 2 relevant articles that relate to the course content. One article is Peer-reviewed, and the other is secular. We want to see what is happening in schools nationwide regarding this topic. Write an article review and personal reflection connecting article with the course content and school environment.</p>	<p>Writes review of articles with basic citation information and briefly shows connection between course and article content.</p> <p>*Must Include a copy or link of the article utilized in this assignment.</p>	<p>Writes review of article with a few references of information.</p> <p>Some critical analysis and solutions.</p> <p>Explores the connection between course and article content, showing full understanding of both interrelationships for teaching considerations.</p>	<p>Writes review of article with several informative references and thoroughly demonstrates the connection between article and course content.</p> <p>Reflection incorporates abstract and critical analysis and alternatives or solutions.</p> <p>Personal experiences and perspectives are included.</p> <p>Review applies information learned to potential classroom situations.</p>

### Required Lesson/Unit Plan or Activity Rubric

Activity, Lesson	Basic (5 pts.)	Proficient (10 pts.)	Advanced (20 pts.)
<p>Write your own Classroom Lesson plan, project or activities that demonstrate the course concepts in a school classroom or instructional environment. Other activities include staff development, State academic standards, parent outreach, department or committee work, curriculum development, presentations, and school events.</p>	<p>Creates a minimal activity and lesson plan that briefly demonstrates a simple application of a course concept or strategy that can be utilized in classrooms for instructional and/or evaluative applications.</p>	<p>Creates a general activity and lesson plan and unit plan that demonstrates two or more course applications of the various topics or concepts.</p> <p>Includes any state, district, or national academic standards that apply.</p> <p>Contains a variety of teaching or learning styles and concrete or abstract practical applications of a concept from the course materials. Error free</p>	<p>Creates a detailed activity and lesson plan or unit plan that includes a variety of teaching and learning styles. Contains concrete and abstract activities for practical classroom applications of several concepts from the course content.</p> <p>Addresses any state, district, or national academic standards in the activity that may apply.</p> <p>Creates a lesson plan or activity that helps students utilize course content to apply the knowledge or skills to school curriculum for their affective needs and improving academic achievement.</p>

### Final-Application Essay Rubric Assignment

Application Essay	Basic (5 pts.)	Proficient (7 pts.)	Advanced (10 pts.)
<p>Write a 3-page final essay combining all the course content or assignments and show how they can be applied to teaching students, schools settings and staff and personal development.</p>	<p>Writes an essay addressing how the course content can be applied to classroom instruction, student achievement, and the overall school environment.</p>	<p>Writes an essay with one or two examples of how various course concepts can be developed and implemented in the classroom and school environments.</p> <p>Writing addresses any state, district, or national academic standards.</p> <p>Addresses instructional methods, teaching</p>	<p>Thorough essay with multiple examples of how various course concepts can be developed and implemented in classroom and schools.</p> <p>Includes student's personal and experiential reflections with any state, district, or national academic standards that may apply. Writing offers solutions as they apply</p>

		strategies and effective lessons as well as students' affective needs and academic achievement.	to instructional applications in class and schools. Addresses instructional methods, teaching strategies and effective lessons as well as the affective needs of students along with academic achievement.
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**Late Work:** They are late if not completed within 6 months after Registration. Late assignments will receive a 20% reduction. An "F" grade will be posted if the course work is not completed on time.

**Incomplete Grades:** Incomplete Grades will be handled according to the University Catalog. If an incomplete grade is issued, the student, instructor, and Associate Dean will develop an agreement for the terms of the incomplete and sign it.

**Student Conduct:** Students are required to follow the policies set within the Student Code of Conduct at CSU Pueblo. This Code can be found on the Student Affairs website at <https://www.csupueblo.edu/student-affairs/student-conduct/index.html>. Students with question regarding any guidelines within the Code should contact the Director of Student Conduct and Case Management at 719-549-2092.

**Accommodations:** Colorado State University-Pueblo abides by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education "solely by reason of a handicap." If you have a documented disability that may impact your work in this class and for which you may require accommodations, please see the Disability Resource & Support Center as soon as possible to arrange accommodations. In order to receive accommodations, you must be registered with and provide documentation of your disability to the Disability Resource & Support Center, which is located in the Library and Academic Resources Center, Suite 169.

**Academic Dishonesty:** Academic dishonesty is any form of cheating which results in students giving or receiving unauthorized assistance in an academic exercise or receiving credit for work which is not their own. In cases of academic dishonesty, the instructor will inform the chair of the department prior to implementation of punitive action. Academic dishonesty is grounds for disciplinary action by both the instructor and the Dean of Student Services and Enrollment Management. Any student judged to have engaged in academic dishonesty may receive a failing grade for the work in question, a failing grade for the course, or any other lesser penalty which the instructor finds appropriate. To dispute an accusation of academic dishonest, the student should first consult with the instructor. If the dispute remains unresolved, the student may then state his or her case to the department chair (or the dean if the department chair is the instructor of the course).

**Mandatory Reporting:** Colorado State University-Pueblo is committed to maintaining respectful, safe, and nonthreatening educational, working, and living environments. As part of this commitment, and in order to comply with federal law, the University has adopted a Policy on Discrimination, Protected Class Harassment, Sexual Misconduct, Intimate Partner Violence, Stalking, & Retaliation. You can find information regarding this policy, how to report violations of this policy, and resources available to you, on the Office of Institutional Equity's website ([www.csupueblo.edu/institutional-equity](http://www.csupueblo.edu/institutional-equity)).

### **Institutional Equity Statement**

CSU Pueblo is committed to equal educational and employment opportunities and to the elimination of all forms of Discrimination, Protected Class Harassment, and Retaliation. Any campus community member in need of support, resources, or guidance is welcome to contact the Office of Institutional Equity and Title IX Coordinator via email at [nicole.ferguson@csupueblo.edu](mailto:nicole.ferguson@csupueblo.edu), phone 719-549- 2210, or in person at LARC 187.