Independent Study Online Course Syllabus

Course Number: EDU 921
Course Title: Writing in the Mathematics Classroom

X Online □ Distance Learning

Instructor: Paul Reimer
Phone number: 559-916-1314
Email: paulreimer@me.com
Web: reimermath.com

Units: 3
Grade Level: K-12

Course Description

This online course will explore the various uses of writing in the math classroom to enhance student understanding, increase independence, and promote self-evaluation. Specific resources and activities provided will encourage the development and use of writing experiences such as reflective writing, math journals, and problem solving explanations.

All of the readings and activities included in this course support the implementation of the Common Core Mathematics Standards and Practices.

Course Dates

Self-paced; students may enroll at any time and take up to one year to complete assignments.

You have up to one year from the date of registration, and no less than three weeks (one week per credit), to complete the course.

Technology Requirements

In order to successfully complete the course requirements, course participants will need Internet access, be able to send and receive email, know how to manage simple files in a word processing program, and have a basic understanding of the Internet.

Please remember that the instructor is not able to offer technical support. In the event that you need technical support, please contact your Internet Service Provider.

To register for courses go to http://ce.fresno.edu/cpd and log in
Moodle: 
This course will be delivered totally online. Moodle is a learning management system that provides students access to online resources, documents, graded assignments, quizzes, discussion forums, etc. with an easy to learn and use interface. To learn more about Moodle go to:  (http://docs.moodle.org/en/Student_tutorials). There are some student tutorials on the Center for Online Learning website at Fresno Pacific University – http://col.fresno.edu/student.

Moodle Site Login and passwords – (or other online course access information) 
Students will need to have internet access to log onto http://ce-connect.fresno.edu. The username and password numbers for Moodle access will be sent to you by the university using the email address you submitted at the time of registration. The instructor will then contact you with a welcome letter and login instructions. If you need help with the username and password recovery please contact the Center for Professional Development at (800)372-5505, or (559)453-2000 during regular office hours - Mon-Fri 8:00 am to:00 5pm.

Getting Help with Moodle: 
If you need help with Moodle, please contact the Center for Online Learning (COL), + by telephone 1-559-453-3460. Help by phone is available Mon-Thurs 8:00 am to 8:00pm and on Fridays from 8:00 am to 5:00 pm, or by filling out a “Request Services” form at http://col.fresno.edu/contact/request-services. Please identify that you are with the Continuing Education/Independent Studies department.

Required Texts and Course Materials


Several research-based journal articles are used with permission and available in pdf format in the course management system. Additional materials will include a variety online videos and web-based resources.

Student Learning Objectives (SLOs)

Evidence of Learning

1. Student demonstrated critical thinking and thoughtful engagement with the course objectives through reflective written assignments. (Assignments 1–8)
2. Student applied new learning to teaching practice through thoughtful lesson design and reflection. (Assignment 3, 4, 5)
3. Student made connections to local instructional goals/state standards in the design and implementation of writing activities. (Assignment 3)
4. Student demonstrated effective and appropriate integration of website resources in exploring writing in mathematics. (Assignment 7)
5. Student interacted thoughtfully with online colleagues and contributed productively to online forum discussions, peer lesson review, and collaborative assignments. (Assignments 1-10)

Standards Addressed in This Course

Common Core Standards for Mathematics
http://www.corestandards.org/the-standards/mathematics
- Counting & Cardinality
- Operations & Algebraic Thinking
- Number & Operations in Base Ten
- Number & Operations—Fractions
- Measurement & Data
- Geometry
- Ratios & Proportional Relationships
- The Number System
- Expressions & Equations
- Functions
- Statistics & Probability

Common Core Standards for Mathematical Practice
http://www.corestandards.org/Math/Practice/
- Standard 1: Make sense of problems and persevere in solving them
- Standard 2: Reason abstractly and quantitatively
- Standard 3: Construct viable arguments and critique the reasoning of others
- Standard 4: Model with mathematics
- Standard 5: Use appropriate tools strategically
- Standard 6: Attend to precision
- Standard 7: Look for and make use of structure
- Standard 8: Look for and express regularity in repeated reasoning

National Board for Professional Teaching Standards
http://www.nbpts.org/five-core-propositions
- Proposition 1: Teachers are committed to students and their learning.
- Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students.
- Proposition 3: Teachers are responsible for managing and monitoring student learning.
- Proposition 4: Teachers think systematically about their practice and learn from experience.
- Proposition 5: Teachers are members of learning communities.

Topics, Assignments and Activities

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<table>
<thead>
<tr>
<th>Topic 1 – Orientation and Introductions</th>
<th>Introductions and goals for class</th>
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<tbody>
<tr>
<td>Topic 2 – Getting Started</td>
<td>Initial reflection on using writing in mathematics; discussion with online colleagues</td>
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<tr>
<td>Topic 3 – Reflecting on Math Experiences</td>
<td>Math autobiography</td>
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<td>Topic 4– Lesson Design</td>
<td>Design and teach lessons; share reflections in lesson narrative.</td>
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<td>Topic 5 – Practical Tips for Helping Students Write</td>
<td>Summarize suggestions for using writing in mathematics class.</td>
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<td>Topic 6 – Common Questions</td>
<td>Respond to questions commonly asked by teachers.</td>
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<td>Topic 7 – Looking at Research</td>
<td>Summarize research, describe an approach, engage in forum discussion.</td>
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<tr>
<td>Topic 8 – Online Sources</td>
<td>Explore and evaluate online resources and activities. Network with online community via forum postings.</td>
</tr>
<tr>
<td>Topic 9 – Reflecting on Your Learning</td>
<td>Develop a checklist, create presentation, reflective conversation with colleague. Share and comment via forum.</td>
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**Grading Policies and Rubrics for Assignments**

Each assignment is graded on a 4 point rubric. Assignment totals will be averaged for a final grade upon completion of the course. Please view the assignment rubrics in the course management system for detailed expectations for quality of work.

Students must earn a minimum of 80% to received credit
A – 90-100%, B= 80-89%, (anything below 80% will not receive credit.)

**Grading Policies:**
The discernment between an A or a B is at the discretion of the instructor based on the quality of work submitted (see assignment rubrics). Coursework falling short of a quality equaling a B or a Credit Grade will be returned with further instructions.
All assignments must be completed in order to receive a grade. In addition, all assignments are expected to reflect the quality that teacher-training institutions require of professional educators.
If completed assignments do not meet this standard, students will be notified with further instructions from the instructor.

Written assignments and papers need to follow APA formatting (1” margins, Times New Roman font - size 12, double spaced; centered title, student first and last name on paper. Instructors may add additional APA writing requirements as needed.)

**Final Course Grade and Transcripts**

When all work for the course has been completed, students will need to logon to the Center for Professional Development website (http://ce.fresno.edu/cpd) to “Submit Grade Form”. Once the instructor fills out the grade form online, students may log back in to request their Grade Report as well as order transcripts online. Please allow at least two weeks for the final grade to be posted. For more information see the Independent Studies Policies and Procedures that were sent to you when you received your course materials, or in your online course. They are available, also at [http://ce.fresno.edu/cpd](http://ce.fresno.edu/cpd) - under General Information > CPD Policies.

**Plagiarism and Academic Honesty**

All people participating in the educational process at Fresno Pacific University are expected to pursue honesty and integrity in all aspects of their academic work. Academic dishonesty, including plagiarism, will be handled according to the procedures set forth in the Fresno Pacific University Catalogue. URL [http://www.fresno.edu](http://www.fresno.edu).

**CONTINUING EDUCATION PROGRAM STUDENT LEARNING OUTCOMES:**

<table>
<thead>
<tr>
<th>CE 1.</th>
<th>Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.</th>
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<tbody>
<tr>
<td>CE 2.</td>
<td>Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.</td>
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<tr>
<td>CE 3.</td>
<td>Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.</td>
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<tr>
<td>CE 4.</td>
<td>Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.</td>
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<tr>
<td>CE 5.</td>
<td>Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.</td>
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<td>CE 6.</td>
<td>Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.</td>
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FRESNO PACIFIC UNIVERSITY STUDENT LEARNING OUTCOMES

| Student Learning Outcomes Oral Communication: | Students will exhibit clear, engaging, and confident oral communication – in both individual and group settings – and will critically evaluate content and delivery components. |
| Written Communication: | Students will demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others. |
| Content Knowledge: | Students will demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts. |
| Reflection: | Students will reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and vocational improvement. |
| Critical Thinking: | Students will apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to new situations. |
| Moral Reasoning: | Students will identify and apply moral reasoning and ethical decision-making skills, and articulate the norms and principles underlying a Christian world-view. |
| Service: | Students will demonstrate service and reconciliation as a way of leadership. |
| Cultural and Global Perspective: | Students will identify personal, cultural, and global perspectives and will employ these perspectives to evaluate complex systems. |
| Quantitative Reasoning: | Students will accurately compute calculations and symbolic operations and explain their use in a field of study. |
| Information Literacy: | Students will identify information needed in order to fully understand a topic or task, explain how that information is organized, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information. |

Instructor/Student Contact

Since it is my hope that this course is a meaningful, interactive experience for students, there will be frequent course updates, notes from the instructor, and responses to assignment submissions.

References

Additional resources will be included in the course management system.

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