Course Title: Integrating Mathematics, Writing, and Literature. 1 credit
Instructor: Patricia Glynn, MA   pglynn@framingham.edu

Blackboard:  www.framingham.blackboard.com,  24-hour Blackboard support: 1-866-361-8970

Term: summer: July 13-August 7, 2020      Levels: Non-Matriculated

Course Description
An exploration of strategies for grades K-8 educators to integrate mathematics, writing, and literature into their classes. Are you a math teacher who is interested in exploring how mathematics may be used in writing and literature and how you may use ELA in your math classes? Are you an English teacher who would like to show your students ways that math may help your students better understand some ELA concepts or one who would like to inspire students who are more enthusiastic about learning math than your subject? Are you an elementary educator who wants to feel more comfortable with math and create cross-disciplinary lessons incorporating these subject areas? If yes, you will find unique ways to use mathematics as a tool for understanding writing and literature and to use ELA as a tool for understanding mathematics in your classrooms. Participants will study works by Marilyn Burns and other authorities who teach a cross-curricular approach, and they will create their own ways to reach across-the-curriculum.

Course Texts and Materials: There is not a required class textbook, but students will read materials provided by or referenced by the instructor. Learners will also individually choose a book to use as a resource to help them integrate disciplines. (You do not need to read the entire book; however, you will be using it as a resource to enhance your class and create lessons.) For example, a math teacher may wish to choose From Reading to Math, Grades K-5: How Best Practices in Literacy Can Make You a Better Math Teacher by Siena. They may instead choose a book that shows how mathematics permeates our world, such as How Not to Be Wrong, the Power of Mathematical Thinking by Ellenberg or Outliers by Gladwell. (We shall come to an agreement regarding this book.) Learners will be responsible to access and read their chosen individual texts. Other information, articles, and videos will be viewable online or easily accessible from our library.

Prerequisites:
1. An educator who teaches self-contained classes, ELA, or mathematics for grades K-8.
2. An eagerness to use math/ELA in your curriculum.

Course Objectives:
Upon completion of the course, learners will be able to:
1. Reflect on their own experiences and interests with cross-disciplinary teaching.
2. Select and integrate mathematical materials to use in ELA and/or elementary classrooms.
3. Select and integrate ELA materials to use in the mathematical classroom.
5. Collaborate with fellow classmates regarding teaching strategies and techniques that incorporate a cross-disciplinary approach to teaching mathematics, writing, and literature.
6. Evaluate materials that reflect Guiding Principle 5, Literacy Across Content Areas, of the Massachusetts Curriculum Frameworks.
7. Create original lesson plans that incorporate ideas from our class and from outside, reliable sources which integrate math, literature, and writing.

Course Expectations:
Participation in all assignments and course discussion is required. Learners are expected to interact with our class at least every 48 hours. Course material is arranged in modules and should be viewed in the order listed. Students are expected to complete weekly assignments, participate in weekly discussion boards, and are expected to write an initial reflection paper that is due during the first day of class. Discussion questions will be posted in the threaded discussion area. The first two discussion responses will be due within the first 48 hours of the beginning of each module and other students will be expected to post comments, questions, etc. within 24 hours regarding these initial responses. All other discussion questions should be answered by the middle of each module to allow time for active discussion engagement. Posts must be of substance, include your name, and include the person you are responding to. I shall monitor all discussions and the quality of posts; however, students must take responsibility for keeping discussions lively by posting thought-provoking replies. Learners will choose a reference book of their own choosing, read articles, watch brief videos, explore books/websites, and create/share valuable lesson plans to implement in future classes. Work must be done independently unless the instructor requests that you work collaboratively. All material is posted on the University eLearning platform Blackboard. Late work is not accepted.

Please send any questions that are specific to you to me at pglynn@framingham.edu. Post questions of a general class nature that may not be answered by reading the information in the Module or this syllabus in the “Ask the Teacher” section of the discussion board, and I shall respond within 24-48 hours of posting.

Special Notes:
Expect that information will be shared. Start building toward your final project at the beginning of the course. If you are new to Blackboard or online courses, please review the Blackboard student tutorial or download the PDF file before you begin the course. By logging into Blackboard, you agree to the university Acceptable Use Policy which also covers academic honesty. Please note: As you correspond online, make sure that your writing is accurately worded, clear, and concise. (Remember, the person reading your comments does not see your expression or hear your tone of voice. Take advantage of the environment and prepare your comments in Word before posting them online or sending an email to your classmates or instructor.) Minimum technology requirements are having good access to the Internet, using school email, and using Microsoft Word. Minimum technical skills are the ability to use PowerPoint and Microsoft Word.
Each week:
Each student will read part of the his/her selected and read articles and/or possibly watch videos related to a cross-disciplinary approach to teaching ELA and mathematics. Discussion questions will be posted in the threaded discussion area. Each participant must respond directly to each question by the due date and additionally to two peer members’ responses for each question within the next 24 hours.

Grading Criteria:
Assignment Week 1: Read the information contained in the Announcements, Emails, Content Area, etc. Respond to the Discussion Questions directly and respond to two other students’ posts within 24 hours of their posting. This module ends on Saturday at noon. 10%
Reflection Paper: 5% Due: July 14.
Assignment Week 2: (See Week 1) This module ends on Saturday at noon. 10%
Mid-Semester Lesson/Book Reflection: (How will you use this to enhance your class?): 25%
Assignment Week 3: (See Week 1) This module ends on Saturday at noon. 10%
Assignment Week 4: (See Week 1) This module ends on Friday at midnight. 10%
Mastery Learning Unit: 30%: Due: August 7.
(Note: See Guidelines and Grading rubrics for these assignments at the end of this syllabus.)

Content/Overview:
Day 1: Monday, July 13, 2020
The one-page reflection paper must be sent to the professor via email by July 14. Reflect on your experiences and/or goals of integrating math, literature, and writing. Learners peruse our Blackboard site and immediately ask any important questions regarding our overall course, technology, etc.

Week 1:
*Individual Book Choice
*Choose and begin reading a book that integrates math in literature, eg. *How Not to Be Wrong: The Power of Mathematical Thinking* by Jordan Ellenberg or one that supports a cross-disciplinary approach to teaching math and ELA, such as *Algebra Outloud* by Mower.

Math in Literature, Literature in Math
*Connecting literature and Math, e.g. “Building a Bridge from Reading to Math” by Burns
*Discussion of excerpts from *Mathematics in Literature, Literature in Mathematics* by Professor Glynn
*Discussion of the many ways that math, writing, and literature collide
*Let’s find mathematics in author’s lives, E.g. Voltaire’s mathematical scheme.
*40 Fabulous Math Mysteries
*Engaging math stories, such as Books by Greg Tang (e.g. *The Grapes of Math*) and Lichtman’s *Do the Math: Secrets, Lies, and Algebra*
*Glynn’s article “Money Smarts” published in Scholastic’s *Instructor* magazine.
**Week 2:**
(Please note: The Mid-Semester Lesson is due at noon on Saturday.)

**Math in Writing, Writing in Math**
*How may math be used to help students learn writing concepts?*
*Encouraging students to solve math problems by writing about them, e.g. Restating problems in one’s own words.*
*Creating their own word problems.*
*Suggestions for helping students set up and complete non-fiction math writing, Eg. Problems of the Week.*
*Exploring math authorities’ suggestions for incorporating writing in the math class, e.g. Burns*
*Learners finish selecting relevant materials from their chosen books.*
*Students create a Mid-Semester Lesson integrating their chosen books and their subject area.*

**Week 3:**

**Mathematical Tools and the Book Collaboration**
*Using mathematical tools to understand ELA concepts, e.g. a Venn diagram for understanding compare and contrast essays.*
*Using mathematical tools for self, pre, and post assessment, e.g. a bar graph for evaluating one’s skill levels regarding different types of reading strategies.*
*Learners share ideas from their books and create a lesson incorporating ideas from the book.*

**Week 4:**

*The Master Lesson Due: August 7, 2020.*

*Patricia Glynn teaches at Framingham State University and Massbay Community College. She has also been an instructor at the University of Massachusetts/Lowell, Bentley University, Emmanuel College, Middlesex Community College, and Bunker Hill Community College. She has also taught English, reading, and mathematics in several public schools throughout Massachusetts. She received her MA in writing from the University of Massachusetts/Boston and her BA in education from Boston College. She has had many articles on education published in magazines, such as Instructor, Mailbox Teacher, and Parents.*

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**BLACKBOARD RESOURCES:**
We have moved to an **in-house single-point of contact for first-tier Blackboard support questions**. The new approach includes both 24-7 self-service and in-person options for the most commonly asked
questions. Service interruptions, issues with a Blackboard tool or general requests may be reported
using the options listed here:

• **Self-service:** Visit [myIT.framingham.edu](http://myIT.framingham.edu) to report a problem or search Knowledge Base for frequently asked questions.

• **Call 508-215-5906** and speak to a member of the **Technology Resource Center (a.k.a. the TRC)**

• **Email:** [IT@framingham.edu](mailto:IT@framingham.edu)

• **Stop by the TRC** in Whittemore Library lower mezzanine for personal assistance

If you are new to Blackboard or online courses, review the Blackboard On Demand Learning Center for Students ([http://ondemand.blackboard.com/students.html](http://ondemand.blackboard.com/students.html)), which provides short (2-4 minute) videos on how to submit an assignment, participate in discussion forums, and much more. Blackboard support is also available 24-7 by calling 1-508-215-5906.

**ACADEMIC HONESTY:**
All students enrolled in courses at Framingham State University must abide by the University Policy Regarding Academic Honesty, as published in the Framingham State University catalog and the RAM student handbook. All forms of academic dishonesty, including cheating on exams and plagiarism, are serious offenses and are subject to scrutiny under due process. By logging into Blackboard, you agree to the university Acceptable Use Policy that also covers academic honesty. To become more familiar with the FSU Acceptable Use Policy: [http://www.framingham.edu/information-technology-services/documents/acceptable-use-policy.pdf](http://www.framingham.edu/information-technology-services/documents/acceptable-use-policy.pdf).

**ACCOMMODATIONS:**
Framingham State University offers equal opportunities to all qualified students, including those with disabilities and impairments. The University is committed to making reasonable accommodations as are necessary to ensure that its programs and activities do not discriminate, or have the effect of discriminating, on the basis of disability. Academic Support serves students with learning and psychiatric disabilities as well as students with visual, mobility and hearing impairments.

For further information about this, please visit the website at: [http://www.framingham.edu/center-foracademic-support-and-advising/disability-services/index.html](http://www.framingham.edu/center-foracademic-support-and-advising/disability-services/index.html) or contact Ms. LaDonna Bridges, Director of Academic Support/Disability Services, in the Center for Academic Support and Advising (CASA) at 508-626-4906 or lbridges@framingham.edu.

**Assignments Guidelines:**
Read materials, watch videos, etc. posted in each weekly module. Answer each question initially in the Discussion Board within the first four days of the Module. Then, respond to two other students’ posts within 24 hours of their posting. Make certain that discussions are relevant to our topic, a cross-disciplinary approach to teaching ELA and mathematics. Posts must be of substance, include your name, and include the person you are responding to.
Syllabus is subject to change with notice. Check Blackboard regularly for updates.