Dear Colleagues,

Greetings for a healthy and a successful new year! We are looking forward to seeing you at the OhioMATYC Annual Conference to be held on April 4, 2025 at Sinclair Community College – Centerville Campus, 5800 Clyo Rd, Centerville, OH 45459 from 9:00am to 5:00pm (sessions start at 10 am). In addition to attending, please consider presenting your research work and teaching activities at the conference. It is a great opportunity to meet or reacquaint yourself with your colleagues from across the great state of Ohio. We are looking for presentations covering all facets of our profession: pedagogy, curriculum design/redesign, developmental mathematics, Calculus, and upper-level mathematics, etc. The registration information and speaker proposal form are on the last page of this newsletter and will be posted on our official website at www.ohiomatyc.org. The conference proposal submission deadline is Friday, February 14, 2025.

We have **two open positions**, **President Elect** (4 year commitment) and **Treasurer** (2 year commitment) in our organization that need to be filled to maintain the efficiency and success of the organization. These positions will start after the 2025 OhioMATYC annual conference. If you are interested in serving or need more information, please email me at mduda5@cscc.edu. This is an excellent opportunity to serve our profession, our students, and our organization. It is also a great service to boost a promotion portfolio!

We will present the **OhioMATYC Service Award** at the 2025 Annual conference as well. Please consider nominating a deserving faculty member who has demonstrated outstanding service to mathematics education in the first two years of college at the local, state, and/or national level. Please visit the AWARDS section of the OhioMATYC webpage for the application form and submission details. Completed Nominations should be sent to Kinga Oliver, Awards Coordinator at kinga.oliver@sinclair.edu by the **due date of Tuesday, March 4.** For more information about the award and to download the nomination form, please go to the AWARDS section on the OhioMATYC website.

We will also award two different student scholarships during the Annual conference: the **OhioMATYC Scholarship** and the **Rudy Sattler Memorial Scholarship**. Updated application forms and information can be found on our website. **The deadline to submit nominations for the scholarships is also on Tuesday, March 4.** Please contact our Awards Coordinator, Kinga Oliver at kinga.oliver@sinclair.edu if you have any questions. Please consider contributing towards the OhioMATYC Scholarship fund to support these scholarships or increase the number of scholarships we offer.

Thank you for being a member of OhioMATYC and supporting your organization. Indeed, your involvement is crucial for the future of our organization and our profession. If your membership is NOT current, please renew your membership at your earliest convenience. The cost is ONLY \$10 for one year. You can renew the membership for three years at \$25. If you don't know the status of your membership, please email our treasurer, Karen Starin at kstarin1@cscc.edu for a status update. Once again, I am looking forward to seeing you at the 2025 OhioMATYC Annual Conference!

Thank you!

Michelle Duda, OhioMATYC President, mduda5@cscc.edu

WWW.OHIOMATYC.ORG Page 2

OhioMATYC Members Attend AMATYC in Atlanta November 14—November 17, 2024







WWW.OHIOMATYC.ORG Page 3

Infusing Equity and Inclusion in the Mathematics Classroom By Nan Sattler

Faculty, institutions, and students should collaborate to cultivate an environment where everyone feels valued, understood, and a true sense of belonging. Together, we can unlock the transformative power of mathematics as a catalyst for empowerment, social justice, and personal growth, paving the way for a more equitable future in college mathematics classrooms. This is the basis for a new chapter, Infusing Equity and Inclusion in the Mathematics Classroom in AMATYC IMPACT that was approved by the delegate assembly on December 14, 2024. The document can be found in its entirety at https://my.amatyc.org/impactlive-home/standards-docs/impact-chapt07-2024

College mathematics classrooms strive to be spaces where the pursuit of knowledge knows no boundaries. These environments bring together students from diverse backgrounds, each contributing unique dreams, abilities, and experiences. Within this dynamic context lies a microcosm of society, enriched by diversity yet often marked by the inequities it reflects (U.S. DoE, 2016). In the twenty-first century, mathematical literacy and critical thinking skills are more essential than ever (Rizki & Priatna, 2019), making it imperative for educators to ensure accessibility for all learners. As the American Mathematical Association of Two-Year Colleges (AMATYC, 2020) asserts, "all students have the right to access high-quality mathematics education in ways that maximize their individual potential" (para. 1). The curriculum, pedagogy, and interactions within classrooms significantly impact students' learning experiences.

Faculty play a crucial role in fostering inclusive environments through their curriculum choices, teaching methods, and individual interactions with students. Research highlights the importance of students seeing themselves reflected in both faculty and curriculum to foster a sense of belonging and inclusivity. Greater representation of underrepresented groups among faculty has been shown to enhance students' sense of academic validation (U.S. DoE, 2016, p. 37).

This chapter aims to guide students, faculty, and institutions in prioritizing the recognition and celebration of each student's unique identity—including factors such as age, ancestry, disability, ethnicity, gender, sexual orientation, socio-economic status, and more. Creating a supportive environment where everyone feels valued, understood, and included is essential. Faculty and staff must engage in ongoing professional development to address implicit biases, support students experiencing stereotype threat or microaggressions, and effectively recognize and respond to microaggressions.

Faculty can further promote diversity and inclusion in mathematics classrooms through active and collaborative learning strategies. Incorporating principles of universal design in course planning can reduce the need for individual accommodations, enhancing the learning experience for all students. Institutions should actively support these efforts by providing resources, training, and opportunities for professional growth while fostering an openness to revisiting and improving existing policies and practices.

AMATYC encourages the inclusion of diverse voices in decision-making processes, recognizing that these perspectives strengthen the educational community. Every student is a valued and equal member of the classroom, and together, we can harness the power of mathematics as a tool for empowerment, social justice, and individual growth. By doing so, we lay the groundwork for a more equitable and inclusive future within college mathematics classrooms.

Infusing Equity and Inclusion in the Mathematics Classroom, Continued

Submitted by Nan Sattler

Faculty play a pivotal role in student success, serving as the bridge between course content and meaningful connections with students. Their passion, dedication, and authentic engagement are key factors in helping students thrive (Malvik, 2020, para. 1). As developers and facilitators of the mathematics curriculum, faculty hold the responsibility and autonomy to shape the educational experiences within their classrooms (U.S. DoE, 2016). Numerous established frameworks, such as antiracist pedagogy, multicultural education, and inclusive pedagogy, provide effective strategies for promoting access and inclusion, particularly for students with disabilities and other marginalized populations.

Accessible and inclusive teaching, regardless of the specific approach, is guided by seven foundational principles (Carter, 2022):

- 1. **Integrate Diversity:** Embrace and value differences by incorporating diverse perspectives in course materials, visuals, research, and classroom artifacts.
- 2. **Expand Access:** Identify essential skills for course success and design proactively for accessibility, minimizing the need for reactive adjustments.
- 3. **Foster Belonging:** Build a learning community where shared responsibilities and proactive measures address exclusionary social dynamics.
- 4. **Utilize Differentiated Instruction:** Employ varied instructional practices to meet the diverse needs of students and instructors.
- 5. **Embrace Structured Flexibility:** Offer multiple pathways to achieve course goals, allowing adjustments that benefit both students and instructors.
- 6. **Model Transparency:** Clearly articulate learning objectives, requirements, and teaching methods to enhance understanding and trust in the learning process.
- 7. **Incorporate Feedback:** Provide opportunities for reflection, feedback, and revision, using insights to continuously improve teaching and learning practices.

By adhering to these principles, faculty can create classrooms that support access, inclusion, and student success while fostering an environment where all learners feel valued and empowered.

References

American Mathematical Association of Two-Year Colleges (AMATYC). (2020). Position statement of the American Mathematical Association of Two-Year Colleges: Diversity, equity, and inclusion in mathematics. https://amatyc.org/page/PositionDiversityEquityInclusion

Carter, A. M. (2022). Teaching with access and inclusion. Minnesota Transform and the Center for Educational Innovation, University of Minnesota. https://z.umn.edu/TAI

Malvik, C. (2020). Acknowledging the importance of faculty training and development. https://collegiseducation.com/insights/enrollment-growth/importance-of-faculty-trainingand-development/

Rizki, L. M., & Priatna, N. (2019). Mathematical literacy as the 21st century skill. Journal of Physics: Conference Series, 1157(4), 042088. https://doi.org/10.1088/1742-6596/1157/4/042088

U.S. Department of Education (U.S. DoE). (2016). Advancing diversity and inclusion in higher education: Key data high-lights focusing on race and ethnicity and promising practices. https://www2.ed.gov/rschstat/research/pubs/advancing-diversity-inclusion.pdf

WWW.OHIOMATYC.ORG Page 5

OhioNETs Written by Sarah Long

The OhioMATYC Board has been in discussions about how to have more of an active presence in the mathematics community in Ohio. One idea to increase our presence is to parallel AMATYC's structure of ANETs, or Academic Networks. A list of the current ANETs can be found here (<u>Click Here</u>) and include topics such as Adjunct Faculty Issues, Developmental Mathematics, Mathematics Pathways, and Quantitative Reasoning.

During the Business Meeting at the annual conference, a brief statement will be made, overviewing the purpose of these networks and officially opening the floor for discussion. A session immediately after the Meeting will also be held, for those interested, to begin discussions about what this may look like in Ohio. We may choose to parallel some or all of AMATYC's ANETs, come up with our own, or some combination.

How will they be used? Who will lead them? What will they encompass? What will they do? The answers to those questions (and certainly more) will be up to us to determine! Bring thoughts, ideas, and your enthusiasm! I look forward to our brainstorming session!

AMATYC LOOKING AHEAD



AMATYC Annual Conference

Mathematics On My Mind

November 13 - 16, 2025

Reno, Nevada

<u>Submit your presentation proposal today!</u>

The proposal deadline is February 15, 2025

Link to Conference Page: <u>CLICK HERE</u>

Problem Corner - solutions will be posted on the OhioMATYC website

1. Find $x + y$ if $x - y = 29$ and $\sqrt{x} + \sqrt{y} = 29$				
A. 421	B. 481	C. 841	D. 870	E. 1684
2. Consider the function $g(x) = ax^4 + bx^3 + cx^2 + dx + e$ whose graph is obtained by shifting the graph of the function $f(x) = 2x^4 + 4x^3 + 26x^2 - 60x + 81$ three units to the left. Find $a + b + c + d + e$.				
A. 305	B. 840	C. 855	D. 995	E. 1025
3. George writes down a 3-digit number N with three different <u>nonzero</u> digits and then rearranges the digits to form another 3-digit number M with no digit in its original place. If $M + N = 1092$, find $ M - N $.				
A. 162	B. 378	C. 432	D. 612	E. 738
4. Let $P(x) = Ax^5 + Bx^4 + Cx^3 + Cx^2 + Bx + A$ be a fifth-degree polynomial with integer coefficients where $A > 0$ and the greatest common factor of A, B, and C is 1. If $\sqrt{7}$ is a zero of $P(x)$, find $A + B + C$.				
A > 0 and the greatest A50	t common factor of A, B36	B, and C is 1. If $\sqrt{7}$: C. 0	is a zero of $P(x)$, find D . 36	A + B + C. E. 50
5. Three people (X, Y, Z) are in a room with you. One is a knight (knights always tell the truth), one is a knave (knaves always lie), and the other is a spy (spies may either lie or tell the truth). X says, "Z is the knave." Y says, "X is the knight." Z says, "I am the spy." Which of the following correctly identifies all three people?				
A.	B.	C.	D.	E.
X is the knave.	X is the spy.	X is the knight.	X is the knight	X is the knave.
Y is the knight.	Y is the knave.	Y is the knave.	Y is the spy.	Y is the spy.
Z is the spy.	Z is the knight.	Z is the spy.	Z is the knave.	Z is the knight.
6. Suppose there are three light bulbs that are turned off. When a button is pushed, a random bulb is selected and then changed: if the bulb was off when the button was pushed, the bulb turns on, and if the bulb was on when the button was pushed, the bulb turns off. What is the probability that there is at least one bulb on after 4 button pushes?				
A. 7/27	B. 4/9	C. 5/9	D. 20/27	E. 8/9
7. Given the system $\begin{cases} x^3 + y = 1739 \\ x + y^3 = 1343 \end{cases}$, find $x + y$ if x and y are both positive integers.				
A. 20	B. 21	C. 22	D. 23	E. 24
8. $\{a_n\}$ is a sequence defined by $a_n = f(n)$ where $f(n)$ is a 3 rd degree polynomial function. If the first four terms are $a_0 = 1$, $a_1 = 2$, $a_2 = 3$, and $a_3 = 5$, find a_{12} .				
			D. 300	E. 377
9. A circle with center P is inscribed in \triangle ABC with right angle A. such that the circle is tangent to all 3 sides of ABC. Segment BP is extended until it intersects AC at point M. If the length of leg AB is 1050 and the length of leg AC is 1728, the length of segment AM can be written in lowest terms as p/q where p and q are relatively prime positive integers. Determine $p+q$.				
		C. 475	D. 4725	E. 4733
10. Over the weekend, Omar, Paula, Quentin, Rosa, Sam, and Thieu each packed several gift bags; they packed 91, 92, 93, 94, 95, and 96 bags, respectively. Each of them packed <i>k</i> times as many bags on Saturday as on Sunday, where <i>k</i> was a different whole number between 1 and 6 inclusive for each of them.				

Who packed three times as many bags on Saturday as on Sunday?

B. Paula

C. Quentin

D. Rosa

E. Sam

A. Thieu