A Night of Mathematical Musings
and
Appalachian Initiative for Mathematics: Final Report

WAM Ambassador Program

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A Night of Mathematical Musings

Date	Item	Total	IAS WAM ($500.00)	Cost-share
1/13	Steel City Pops	$531.00	$265.50	$265.50
2/10	Marketing posters	$16.80	$8.40	$8.40
2/11	Event programs	$60.00	$30.00	$30.00
Total Cost		**$607.80**	**$303.90**	**$303.90**
Unused WAM Funds		$196.10		

Darleen Perez-Lavin, Rachel Petrik, and I worked together to organize and run "A Night of Mathematical Musings." In addition to IAS Women and Mathematics and Lisa Simonyi, the event was financially supported by University of Kentucky Math Club. The leadership behind this event was crucial to its implementation. We began planning at the start of the school year giving ourselves six months to prepare for the event. Planning involved creating a realistic timeline, splitting the main duties among the three of us, and checking in 1-2 times a month until the event. A big part of our success was being able to trust each other to get the work done in a timely manner. The planning moved forward smoothly and we had great communication with each other along the way. One success was our ability to identify and recruit entertaining faculty speakers for the evening. We thought carefully about choosing faculty would prepare good undergraduate level talks. In addition we considered the diversity of the speakers in terms of area of study, gender, and race. One struggle that we had was with advertising the event, which lead to a smaller turn out than we would have liked. Unfortunately, during the two weeks that we should have been doing the heaviest marketing, two of the three of us were on the job market with a high volume of traveling and the third was sick. We have discussed how in future projects together we should be more careful when making the timeline to think ahead to possible hurdles within our own lives.

On February 19th, 2020 we ran our first Mathematical Musings night. Although the turnout was not as great as we would have liked. I believe that all three of us felt that the night was indeed successful. Approximately 15 graduate students, 15 undergraduate students, and 10 faculty were present. We had three information tables present representing Society for Industrial and

Applied Mathematics, Math Club, Association for Women in Mathematics and the departmental Graduate Student Council. We also had Steel City Pops catering which was a hit among those in attendance. We decided to go with Steel City Pops to provide a local favorite and have relatively easy distribution and clean-up. Our event space was organized so that the talks were given in a classroom and the tables and snacks were in an atrium that was situated as a lounge space. If we were to do the event again we think that we would just use the atrium and have socializing and talks in the same room, this would make the event more cohesive and flexible. The talks themselves were really good. The audience was extremely joyful and engaged. The room filled with laughter and smiles during each presentation. The students and faculty that attended expressed that they really had a great time and found it to be a lovely evening.

Overall, I really enjoyed planning, implementing, and reflecting on this activity. I definitely think that it was worth-while and turned out to be a delightful event. I believe that if we were to do the event again that we would have larger attendance and bring in more undergraduate students because of increased efforts in marketing on our side and by word of mouth from part participants.

Appalachian Initiative for Mathematics – Outreach to High Schools

Date	School	Total	IAS WAM ($185.00)	Cost-share
3/13	Montessori High School	$27.22	$13.61	$13.61
Unused WAM Funds		$171.39		

In the 2018–2019 school year, Kasey Bray and Julianne Vega successfully launched an outreach program to non-Ph.D. granting institutions with the goal of increasing diversity in the mathematical community. This program sends pairs of graduate students to 6 universities to give 30-minute presentations on their mathematical research, geared for undergraduates.

The middle and high school outreach through Appalachian Initiative for Mathematics was planning on sending pairs of graduate/undergraduate students to local schools to present hands-on, inquiry-based lessons in higher mathematics. Although we had multiple visits lined up for the spring semester, due to COVID-19, we were only able to send one pair of students to a local school.

Graduate student Matias Von Bell and undergraduate student Maddy Howard visited a combined classroom at the Montessori School in Lexington, Kentucky and taught a lesson on power sets though a problem-based, hands-on activity. The teacher and students enjoyed the lesson. While Matias was leaving the teacher expressed interest in maintaining communication with the Appalachian Initiative for Mathematics at University of Kentucky for future semesters and events.

The hardest part about beginning the outreach in high schools is trying to make connections with teachers and offering services. It was also more difficult to schedule the visits due to the heavy schedule of secondary teachers. In the future, I believe that our connections would continue to grow and strengthen.