

PROMOTION RECOMMENDATION
The University of Michigan-Dearborn
College of Arts, Sciences, and Letters
Department of Mathematics and Statistics

Margaret M. Rathouz, assistant professor of mathematics education, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters, is recommended for promotion to associate professor of mathematics education, with tenure, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters.

Academic Degrees

Ph.D.	1995	University of California-San Diego, San Diego, CA
B.A.	1987	Boston University, Boston, MA

Professional Record

2006- present	Assistant Professor of Mathematics Education, Department of Mathematics and Statistics, University of Michigan-Dearborn
1997 – 2006	Lecturer, Mathematics and Statistics Department, California State University Monterey Bay, Seaside CA

Summary of Evaluation:

Teaching: Professor Rathouz's teaching is rated as excellent. She has played a key role in curriculum development by creating and piloting the education course EXPS 407/507. Her teaching has been assessed positively not only by her students, but also by internal and external observers. She is student-focused, routinely serving as an advisor to elementary education students and conducting outside study sessions with students. She maintains a comprehensive deeply reflective teaching portfolio detailing the evolution of courses taught and teaching insights across terms. She has demonstrated her flexibility in the classroom by teaching courses beyond the regular mathematics education curriculum, including an honors seminar Math 297 and courses for the department's Center for Mathematics Education.

Research: Professor Rathouz's research as excellent. Her work was described as serious, detailed, timely, relevant, thought provoking, forward looking, and rich for future work. The outlets for this work were characterized as premier and well respected. She has demonstrated her ability to work independently by producing five articles in which she is the sole author, as well as others written collaboratively with junior and senior colleagues in the department. Many reviewers noted a common thread linking one article to another, recognizing the coherence of her work. Others praised her nuanced writing style, commented on her ability to develop rich narratives, and remarked on her ability to write for two distinct audiences: teachers and teacher educators. Still others encouraged her to collect her work into book form.

Recent and Significant Publications:

Cengiz, N. and Rathouz, M. (2011). "Games to support decimal number reasoning," *Mathematics Teaching in the Middle School*. 17(4): 244-251.

Cengiz, N. and Rathouz, M. (2011). "Take a bite out of fraction division," *Mathematics Teaching in the Middle School*. 17(3): 146-153.

- Rathouz, M. (2011). "3 ways that promote student reasoning," *Teaching Children Mathematics*, 18(3): 182-189.
- Rathouz, M. (2011). "Visualizing decimal multiplication with area models: Opportunities and challenges," *Issues in the Undergraduate Mathematics Preparation of School Teachers: The Journal, Volume 2, Pedagogy* (online, August 2011).
- Rathouz, M. (2011). "Making sense of decimal multiplication," *Mathematics Teaching in the Middle School*, 16(7): 430-437.
- Rathouz, M. (2010). "Ambiguity in units and their referents: Two cases in rational number operations," *For the Learning of Mathematics*, 30(1): 43-51.
- Rathouz, M. and Rubenstein, R. (2009). "Supporting preservice teachers' learning: A fraction operations task and its orchestration," in D. S. Mewborn and H. S. Lee (Eds.), *Scholarly Practices and Inquiry in the Preparation of Mathematics Teachers (AMTE Monograph VI)* (pp. 85-103). San Diego, CA: Association of Mathematics Teacher Educators.
- Rathouz, M. (2009). "Support pre-service teachers' reasoning and justification," *Teaching Children Mathematics*, 16(4): 214-221.

Service: Professor Rathouz's service is rated as significantly capable. At the campus-wide level she has been a mentor to non-traditional female students through the Women's Resource Center-Transitions Mentoring Program and a presenter for Bring Your Child to Work Day. At the college and department levels, she has served as an alternate for CASL and department Executive Committees. As a member of the mathematics education team she participates fully in decision-making, course development and maintenance, coordination of materials, advising and facilitating seminars for students who did not take Math 385 at UM-D. She coordinates the fieldwork placement of about 40 methods students (ED D452) per term into 9-12 local schools. This work includes identifying placement teachers, recruiting, scheduling, forming student teams, making placements, and supporting communication and transportation. She also serves on the School of Education Professional Dispositions Committee. For the Conversations Among Colleagues state conference at UM-D March 2009 she served on the planning committee and spearheaded communicating with colleagues to solicit speakers and advertise the event.

External Reviewers:

Reviewer A: "She has produced a focused and consistent research agenda and has presented and published in high quality research outlets that reach mathematics teachers, mathematics teacher educators and mathematicians."

Reviewer B: "I will be using some of her articles in my own classes with both prospective and practicing teachers. I would suggest that she pursue writing a book either for teachers or for teacher educators on orchestrating mathematical discussions with a publisher such as NCTM, Heinemann or Math Solutions. Her writing style is accessible at the same time as being nuanced, allowing for a more detailed interpretation for how to orchestrate classroom experiences to support teacher learning."

Reviewer C: "The fine-grained analysis of various classroom episodes and student work helped me recognize both the benefits and limitations of using everyday language, real-life contexts, and pictorial representations in the teaching and learning of rational number operations."


Reviewer D: “Dr. Rathouz’s record of nine accepted, in press, or published works is impressive. This number of high quality publications exceeds that of other colleagues I have known who were at a teaching university and seeking promotion to Associate Professor.”


Reviewer E: “Dr. Rathouz’s work is directed toward the audience of practitioners, including teachers and teacher educators, and I think her scholarship is of high quality. I fully expect her to continue to contribute meaningfully to these communities.”

Reviewer F: “The number of publications Dr. Rathouz had in recent years is impressive. Just as remarkable is her ability to publish in different types of outlets. She has published not only sole-authored articles but also some co-authored papers—both as the lead author and the secondary author.”

Reviewer G: “Dr. Rathouz’s research is current, relevant, and forward-looking. Her themes of the role of language and mathematics, building a community of learners, careful analyses of mathematical models, the role of the teacher in orchestrating productive mathematical discussions, and the exploration of the complex dynamic of multiple representations are all timely and certainly provide rich areas for her further research.”

Summary of Recommendation: Professor Rathouz has been rated excellent in the areas of research and teaching, and significantly capable in service. She has been successful in the classroom with a demanding student audience. Her research output has appeared in respected journals and is well regarded. Her service has been very positively student oriented on campus and has a vigorous professional component. We are very pleased to recommend, with strong support of the College of Arts, Sciences, and Letters Executive Committee, Margaret M. Rathouz for promotion to associate professor of mathematics education, with tenure, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters.


Jerold L. Hale, Dean
College of Arts, Sciences, and Letters


Daniel Little, Chancellor
University of Michigan-Dearborn

May 2012