

Mary Annette Rose
Associate Professor of Educational Studies
Phone: 765-285-5648
Email: arose@bsu.edu
Room: TC 837

Mary Annette Rose, EdD., has served Ball State University for over two decades supporting the professional development of teachers and educational leaders by delivering graduate courses within several masters programs, including Educational Leadership, Curriculum and Educational Technology, Technology Education, and Career and Technical Education.

She develops, delivers and assesses integrated curriculum and collaborative teaching and learning approaches, especially those that focus on the application of science and mathematics to advance energy literacy, technological literacy, and environmental sustainability goals. She serves as an advisor for the [Minor in Sustainability](#) and offers a course in the [Graduate Certificate in Sustainability](#) and the Honors College. As a sustainability educator, she has mentored numerous immersive learning projects that resulted in the development of a website highlighting the sustainability initiatives of the [Indianapolis Airport Authority](#) and five sustainability reports for Ball State University that applied the [Global Reporting Initiative Standards](#). These immersive learning courses have been supported by the [Council on the Environment \(COTE\)](#). The reports are available at <https://www.bsu.edu/academics/centersandinstitutes/cote/sustainability/gri>

In addition to sustainability education, a prevailing theme in Annette's teaching, service, and scholarly work has been integrative STEM—the application of collaborative design-based and inquiry-based, approaches that intentionally foster the development of integrated understandings and skills in science, technology, engineering, and mathematics. Most recently, she has collaborated with Rachel Geesa and Krista Stith to edit *Leadership in Integrative STEM Education: Collaborative Strategies for Facilitating an Experiential and Student-Centered Culture* (in press), a book intended to support educational leaders as they advance STEM culture within schools.

Education

Ed. D. in Instructional Systems Technology, Minor: Educational Psychology, Indiana University. (2002).

M.S. in Education, Instructional Systems Technology, Indiana University. (2001).

M.A. in Secondary Education, Technology Education, West Virginia University. (1983).

B.S. in Education, Northeastern State University, Oklahoma. (1980).

Publications

- Geesa, R.L., Rose, M.A., & Stith, K.M. (In Press). *Leadership in Integrative STEM Education: Collaborative Strategies for Facilitating an Experiential and Student-Centered Culture*. Rowman & Lifflefield.

- Geesa, R. L., Stith, K. M., & Rose, M. A. (2020). Preparing school and district leaders for success in developing and facilitating integrative STEM in higher education. *Journal of Research on Leadership Education*, 1-21. <https://doi.org/10.1177/1942775120962148>
- Flowers, J., & Rose, M.A. (2020). Stereolithography grows experimenters. *Journal of Technology and Engineering Teacher*, 79(6), 15-18.
- Rose, M.A., Geesa, R., & Stith, K. (2019, Fall). STEM leader excellence: A modified Delphi study of critical skills, competencies, and qualities. *Journal of Technology Education*, 31(1), 42-62.
- Lari, P., Rose, A., Ernst, J.V., Clark, A.C., Kelly, D.P., & DeLuca, V.W. (2019). Premier PD: Action research. *Technology and Engineering Teacher*, 79(2), 23-27.
- Rose, M. A., Carter, V., Brown, J., & Shumway, S. (2017). Status of elementary teacher development: Preparing elementary teachers for technology and engineering experiences. *Journal of Technology Education*, 28(2), 2-18.
- Rose, M. A., Shumway, S. L., Carter, V. R., & Brown, J. (2015). Identifying characteristics of technology and engineering teachers striving for excellence using a Modified Delphi. *Journal of Technology Education*, 26(2), 2-21.
- Gosman, D., & Rose, M.A. (2015). A look inside: MRI shows the details. *Technology and Engineering Teacher*, 74(7), 8-11.
- Rose, M. A., Gosman, D., & Shoemaker, K. (2014). Mobile learning: Geocaching to learn about energy systems. *Technology and Engineering Teacher*, 74(1), 18-23.
- Flowers, J. C., & Rose, M. A. (2014). Mathematics in technology & engineering education: Judgments of grade-level appropriateness. *Journal of Technology Education*, 25(2), 18-34.
- Rose, M. A. (2013). EnviroTech: Student outcomes of an interdisciplinary project that linked technology and environment. *Journal of Technology Studies*, 38(2), 80-89.
- Rose, M.A. & Hunt, B.* (2012). Learning from engineering failures: A case study of the Deepwater Horizon. *Technology and Engineering Teacher*, 71(5), 5-11.
- Rose, M. A. (2011). EnviroTech: Enhancing environmental literacy and technology assessment skills. *Journal of Technology Education*, 22(1), 43-57.
- Rose, M. A., Ribblett, J. W., & Hershberger*, H. (2010). Leveraging the experimental method to inform solar cell design. *Journal of STEM Education*, 11(5), 56-63.
- Rose, M.A. (2009). The environmental impacts of offshore oil drilling. *The Technology Teacher*, 68(5), 27-32.
- Krupczak, J., Simpson, T., Bertsch, V., Disney, K., Garmire, E., Oakley, B. & Rose, M. A., (2008). A framework for developing courses on engineering and technology for non-engineers. Proceedings of the 2008 Annual Conference of the American Society for Engineering Education.
- Rose, M.A. & Flowers, J.C. (2008). Technology assessment: A graduate course to build decision-making skills. Proceedings of the 2008 Conference of the American Society for Engineering Education. Available from <http://www.asee.org/>
- Rose, M. A. (2007). Perceptions of technological literacy among science, technology, engineering, and mathematics leaders. *Journal of Technology Education*, 19(1), 35-52.
- Rose, M. A. (2007). Work measurements: Interdisciplinary overlap in manufacturing and algebra I. *The Technology Teacher*, 66(7), 6-11.
- Rose, M.A. (2006). Emergency preparedness: Balancing electrical supply and demand. *The Technology Teacher*, 65(8), 6-9.
- Rose, M.A. (2006). Signals, transducers, and modulation: A wireless design challenge. *The Technology Teacher*, 65(6), 21-24.
- Ali, N.S., Hodson-Carlton, K., Ryan, M., Flowers, J., Rose, M.A., & Wayda, V. (2005). Online education: Needs assessment for faculty development. *The Journal of Continuing Education in Nursing*, 36(1), 32-38.

- Rose, M.A. (2004). Comparing productive online dialogue in two group styles: Cooperative and collaborative. *The American Journal of Distance Education*, 18(2), 73-88.
- Flowers, J., & Rose, M. A. (1998). Mirror, mirror, on the wall. *The Technology Teacher*, 57(5), 32-34.

Awards

- 2020 Immersive Learning Faculty Award for the *Measuring and Reporting Sustainability* project. Office of Immersive Learning, Ball State University. See http://www.bsuceres.org/GRI/021020GRI_SustainabilityReport2017.pdf
 - 2019, March. *Technology and Engineering Teacher of the Year*. The Council on Technology and Engineering Teacher Education. Kansas City, Kansas.
 - 2016 Vivian Z. Conley Award for Outstanding Achievement in Environmental Education. Coalition of Women's Organizations, Muncie, Indiana.
 - 2016 Silvius-Wolansky Outstanding Publication Award for Identifying Characteristics of Technology and Engineering Teachers Striving for Excellence Using a Modified Delphi. Council on Technology and Engineering Teacher Education. Washington DC.
 - 2012 Paul T. Hiser Exemplary Publication Award. Granted by Epsilon Pi Tau in 2012 for EnviroTech: Student outcomes of an interdisciplinary project that linked technology and environment. *Journal of Technology Studies*, 38(2), 80-89.
 - 2011 Outstanding Research Award for *EnviroTech: Enhancing Environmental Literacy and Assessment Skills* (Rose, 2010), Council on Technology Teacher Education, Long Beach, CA.
 - 2009 Rawlings Outstanding Distance Education Teaching Award. School of Extended Education, Ball State University.
 - 2008 Green Initiatives Award. For service to Living Lightly: A Resource Fair for Sustainable Lifestyles in East Central Indiana. Presented by the Council on the Environment, Ball State University.
 - 2005 Wedemeyer Award for Outstanding Scholar in Distance Education. Presented by the American Journal of Distance Education and the 21st Annual Conference on Teaching and Learning at a Distance.
 - 1996 Interdisciplinary Project: Statistical Process Control, Rufus W. Beamer Excellence Award, Norfolk Public Schools, Norfolk, VA.
 - 1995-1996 Outstanding Teacher, Tandy Technology Scholars, Norview High School, Norfolk, VA.
-