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The development and evolution of an introductory statistics course for in-service middle-level mathematics teachers.

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Summary: The statistical preparation of in-service teachers, particularly middle school teachers, has been an area of concern for several years. This paper discusses the creation and delivery of an introductory statistics course as part of a master's degree program for in-service mathematics teachers. The initial course development took place before the advent of the Common Core State Standards for Mathematics (CCSSM) and the Mathematics Education of Teachers (MET II) Reports, and even before the GAISE Pre-K–12 Report. Since then, even with the recommendations of MET II and the wide-spread implementation of the CCSSM, the guidance available to faculty wishing to develop a statistics course for professional development of in-service teachers remains scarce. We give an overview of the master's degree program and discuss aspects of the course, including the goals for the course, course planning and development, the instructional team, course delivery and modifications, and lessons learned through five offerings. With this paper, we share our experiences developing such a course, the evolution of the course over multiple iterations, and what we have learned about its value to the middle-level teachers who have participated. As more and more universities are being asked to develop courses specifically for in-service teachers, we wrote this article in the hopes of providing guidance to others, and to share our lessons learned.

Classification: K19 D39

Keywords: stochastics; introductory statistics; university teaching; courses; inservice teacher education; lower secondary; professional development; experience reports; course planning; course development; course revision

<http://ww2.amstat.org/publications/jse/v22n3/schmid.pdf>