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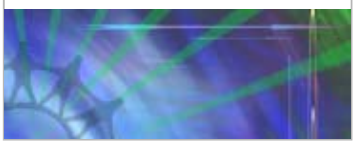

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Cooperative Agreement Conditions
Special Conditions
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Award Abstract #0942186

Common Sense: Quantitative Reasoning in the Undergraduate Curriculum

NSF Org:	DUE Division of Undergraduate Education
Initial Amendment Date:	February 25, 2010
Latest Amendment Date:	February 25, 2010
Award Number:	0942186
Award Instrument:	Standard Grant
Program Manager:	Richard A. Alo DUE Division of Undergraduate Education EHR Directorate for Education & Human Resources
Start Date:	March 1, 2010
Expires:	February 29, 2012 (Estimated)
Awarded Amount to Date:	$190778
Investigator(s):	Maura Mast maura.mast@umb.edu (Principal Investigator) Ethan Bolker (Co-Principal Investigator)
Sponsor:	University of Massachusetts Boston 100 Morrissey Boulevard Dorchester, MA 02125 617/287-5370
NSF Program(s):	CCLI-Type 1 (Exploratory), S-STEM:SCHLR SCI TECH ENG&MATH
Field Application(s):	0116000 Human Subjects
Program Reference Code(s):	SMET, 9178
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ABSTRACT

Mathematical Sciences (21)

This project is developing, assessing, and disseminating materials for teaching a quantitative reasoning course. In contrast with many similar courses, which cover a set of mathematical topics using relevant examples, this course is being driven by complex stories about, for example, inflation, fuel economy, and paying off debt. Students are developing quantitative,

common sense approaches to examine the issues of interest, and instructors review relevant mathematical material as necessary. Spreadsheets are being used as a tool for investigation and computation. Materials being developed include a textbook, homework problems and solutions, model spreadsheets, and supplements for both students and faculty. Course materials are designed to incorporate best practices in teaching. The project is evaluating the ability of the course to change, in the long term, the way students approach quantitative data. Dissemination plans include faculty development workshops for prospective instructors of the new course. Overall, the project is seeking to develop students' willingness and ability to assess numerical evidence in order to make informed decisions. It has the potential to impact a wide variety of students enrolling in general education mathematics courses.

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