Automatic, Multiple Assessment Options in Undergraduate Math and Science Education

Since 2008, automatic, multiple assessment options have been utilized in selected undergraduate meteorology courses at the University of Wisconsin—Milwaukee. Motivated by a desire to reduce stress among students, the assessment methodology includes examination-heavy and homework-heavy alternatives, differing by an adjustable 15% of the overall course grade. Students do not need to commit a priori to one particular assessment option, as the more beneficial of two alternative assessment schemes is automatically chosen at the end of the semester. An analysis of assessment score differences reveals that end-of-semester assessments increased by more than 1% for 48% of the students enrolled, a consequential increase which can improve a student’s assessment by a fractional grade. Score differences among the two assessment alternatives tend to be smaller for higher achieving students, and larger for the middle- and lower achieving students. Score differences larger than 3% were rare. Limited survey results indicate that students understand and appreciate the assessment scheme, and feel that it reduces stress and may improve their academic performance. The automatic, multiple assessment methodology presents no risk to either student or instructor, as students can only benefit and virtually no effort is required of the instructor.

Light Refreshments will be served at 1:30pm in E424A