Re-thinking the Rubric for grading the Colorado Upper-Division Electrostatics Diagnostic

JUSTYNA ZWOLAK, Oregon State University, MARY BRIDGET KUSTUSCH, DePaul University, CORINNE MANOGUE, Oregon State University — The University of Colorado has developed the Colorado Upper-Division Electrostatics (CUE) Diagnostic to test students’ understanding of the content of the first semester of an upper-division electricity and magnetism course. We analyze three CUE problems: a problem involving superposition principle, a problem involving Gauss’ Law and a problem involving electric potential. Using data from both Oregon State University and the University of Colorado, we discuss the strengths and limitations of the current rubric and compare results using a different analysis scheme. We discuss the implications for assessing students’ understanding.