

Abstract Submitted
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Student reactions to equity curricular elements in an upper level E&M course GARY WHITE, The George Washington University — Our upper level electromagnetism (E&M) course for undergraduate physics majors is conducted with the students often working in small groups with whiteboards, with frequent homework assignments, and weekly contributions to online discussions of course readings. Recently, I have invoked Emmy Noether's ideas about the profoundly deep connection between conservation laws and symmetry to tie together several of the middle chapters in the classic E&M text by David Griffiths in what seems a natural way. Interestingly enough, Noether's theorems are not mentioned in Griffiths' text (nor are they mentioned in most physics texts), and this gives us a chance to pause and ask why it might be that this connection, which many believe to be one of the most important in all of physics, is still overlooked in most physics curricular sequences. (for example, see "Teaching symmetry in the introductory physics curriculum" by Christopher T. Hill, and Leon M. Lederman, *The Physics Teacher* 38, 348 (2000); View online: <https://doi.org/10.1119/1.1321816>). Students were subsequently asked to write responses to a variety of prompts, readings, videos, and statistics related to equity issues that were presented/made available. I plan to discuss my perceptions of their reactions to this material, and to the merits and demerits of approaching it in this way for these students.

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