

Abstract Submitted  
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**Team-based learning in lower-division mechanics and upper-division astrophysics classes offered online** JORGE MUNOZ, University of Texas at El Paso — Online classes offer advantages such as more flexibility for students who work and lectures that are on demand and can be played again if necessary. Nevertheless, some challenges remain, particularly the limited amount of socialization and the limited face-to-face time. Team-based learning (TBL) is an effective technique to engage students that results in greater long-term knowledge retention than passive learning, but its implementation is easier in face-to-face settings. In this talk I will describe the weekly TBL activities that I designed for a large lower-division introductory mechanics class and a small upper-division astrophysics class offered recently at The University of Texas of El Paso (UTEP). In the lower-division class, homework problems were assigned for which video solutions were also provided and the TBL activities centered around solving similar problems and making a short recording of the group solution. In the upper-division class, articles from the literature were assigned and questions that could serve to start a discussion were provided and the TBL activities centered around a discussion of the articles and making a short recording of the group conclusions. Feedback from the students will be discussed.

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