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Methods of teaching the physics of climate change in undergraduate physics courses MICHAEL SADLER, Abilene Christian Univ — Although anthropogenic climate change is generally accepted in the scientific community, there is considerable skepticism among the general population and, therefore, in undergraduate students of all majors. Students are often asked by their peers, family members, and others, whether they “believe” climate change is occurring and what should be done about it (if anything). I will present my experiences and recommendations for teaching the physics of climate change to both physics and non-science majors. For non-science majors, the basic approach is to try to develop an appreciation for the scientific method (particularly peer-reviewed research) in a course on energy and the environment. For physics majors, the pertinent material is normally covered in their undergraduate courses in modern physics and thermodynamics. Nevertheless, it helps to review the basics, e.g. introductory quantum mechanics (discrete energy levels of atomic systems), molecular spectroscopy, and blackbody radiation. I have done this in a separate elective topics course, titled “Physics of Climate Change,” to help the students see how their knowledge gives them insight into a topic that is very volatile (socially and politically).

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