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**Physics in "Polymers, Composites, and Sports Materials" an Interdisciplinary Course**[1] ERIC HAGEDORN, MILIJANA SUSKAVCEVIC, UTEP Physics — The undergraduate science course described uses the themes of polymers and composites, as used in sports materials, to teach some key concepts in introductory chemistry and physics. The course is geared towards students who are interested in science, but are still completing prerequisite mathematics courses required for science majors. Each class is built around a laboratory activity. Atoms, molecules and chemical reactions are taught in reference to making polyvinyl acetate (white glue) and polyvinyl alcohol (gel glue). These materials, combined with borax, form balls which are subsequently used in physics activities centered on free-fall and the coefficient of restitution. These activities allow the introduction of kinematics and dynamics. A free fall activity involving ice pellets, with and without embedded tissue paper, illustrates the properties of composites. The final series of activities uses balls, shoes, racquets and bats to further illustrate dynamics concepts (including friction, momentum and energy). The physical properties of these sports objects are discussed in terms of the materials of which they are made. The evaluation plan to determine the effectiveness of these activities and preliminary results are also presented.

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