

1077-F1-1698 **Paul E. Becker*** (peb8@psu.edu) and **Mark Medwid**. *Group Theory in the Linear Algebra Classroom*. Preliminary report.

Computer algebra systems are now widely available in college classrooms. In this environment, Cayley's theorem becomes a unifying concept across abstract algebra, linear algebra, geometry, and other courses. We discuss the representation of small groups by concise block-diagonal binary matrices. We then discuss Maple lab experiences which simultaneously develop fundamental concepts in group theory and linear algebra. We concentrate on a recent senior-level linear algebra course, in which group theory provided an introduction to some of the standard topics. (Received September 22, 2011)