Perfect Fluids Analyzed in Separable $f(R, T)$ Gravity SARAH FISHER, ERIC CARLSON, Wake Forest University — $f(R, T)$ gravity is a generalization of gravity where the gravitational contribution to the action is generalized from $R$ to an arbitrary function of the curvature $R$ and the trace of the stress-energy tensor $T$. We argue that whenever this function is separable and can be written in the form $f(R, T) = f_1(R) + f_2(T)$, the $f_2$ term can always be absorbed into the matter Lagrangian $\mathcal{L}_m$. How this is done is explicitly demonstrated for an arbitrary perfect fluid.