1051-18-182   **Jesse Liptrap*** (`jliptrap@math.ucsb.edu`), Mathematics Department, University of California, Santa Barbara, CA 93106. *Enriched Fusion Categories.* Preliminary report.

We completely describe fusion categories of nilpotence class two and universal grading group of order two, generalizing a theorem of Tambara and Yamagami. As a special case, we find no fusion category with the fermionic Moore-Read fusion rule. Therefore the notion of a fusion category must be generalized in order to model fractional quantum Hall quasiparticles. To that end, we introduce the notion of an enriched fusion category. (Received August 24, 2009)