1155-18-591 **Peter Webb*** (webb@math.umn.edu), School of Mathematics, University of Minnesota, Minneapolis, MN 55455. *Biset functors for categories.* Preliminary report.

In the context of group theory, biset functors have been useful in various ways: in computing the values of group cohomology, and providing fundamental constructions such as the (torsion free part of) the Dade group. Biset functors can also be done for categories in general, not just groups, with similar goals in mind. We describe the basics of this theory, paying attention to the role and structure of the Burnside ring functor for categories. We then show that the cohomology of a category is a biset functor, provided that a condition is imposed on the bisets. In the case of groups, it is that the bisets are free on one side, and we show how to extend this condition to categories. The approach provides a solution to the problem of defining restriction and corestriction on the homology of categories. Prior approaches to this usually require induction and restriction functors to be adjoint on both sides, and we avoid this by using the construction by Bouc and Keller of a map on Hochschild homology associated to a bimodule, and the realization by Xu of category cohomology as a summand of Hochschild cohomology. (Received January 21, 2020)