1071-17-165 **Samuel H Chamberlin*** (samcham@math.ucr.edu), University of California at Riverside, 900 University Ave., Department of Mathematics Surge 202, Riverside, CA 92521. *Integral forms and integral bases for the universal enveloping algebras of map algebras.*

We exhibit integral forms, and explicit integral bases for these integral forms, for the universal enveloping algebras of the map algebras. We also give explicit straightening identities in these universal enveloping algebras, which allow one to write certain monomials in Poincaré-Birkhoff-Witt order. We give applications of these identities to the representation theory of map algebras. (Received March 03, 2011)