We characterize Ding modules and complexes over Ding-Chen rings. We show that over a Ding-Chen ring $R$, the Ding projective (resp. Ding injective, resp. Ding flat) $R$-modules coincide with the Gorenstein projective (resp. Gorenstein injective, resp. Gorenstein flat) modules, which in turn are nothing more than modules appearing as a cycle of an exact complex of projective (resp. injective, resp. flat) modules. We prove a similar characterization for chain complexes of $R$-modules: A complex $X$ is Ding projective (resp. Ding injective, resp. Ding flat) if and only if each component $X_n$ is Ding projective (resp. Ding injective, resp. Ding flat). The proofs are based on generalizations of some recent results of Stovicek and Bravo-Gillespie-Hovey which lead to other interesting corollaries. (Received July 29, 2017)