Thin-walled stiffened shell structures are used in primary structures of space launcher vehicles. These structures are prone to buckling and thus fail due to a loss of structural stability. Generally, it has to be distinguished between two major modes of instability for stiffened shell structures: a global buckling of the entire structure and a local buckling of skin fields, longitudinal and circumferential stiffeners. Due to the large number of variables when designing stiffened shell structures, their preliminary design is a demanding task. To allow an efficient preliminary design, sizing strategies can be developed. For this purpose, analytical methods, which allow to assess the local and global instability of stiffened shell structures, are employed. In this article, sizing strategies based on efficient analytical methods are introduced and applied to identify suitable designs of stringer stiffened and orthogrid stiffened shell structures. To study the imperfection sensitivity of stringer and orthogrid stiffened shell structures, numerical computations are performed using the single perturbation load approach and mode shape imperfections. Finally, weight strength curves are derived for stringer and orthogrid stiffened shell structures.