

1145-VT-1674 **Mahmoud Aldeni*** (aldeni1ms@cmich.edu), Department of Mathematics, Central Michigan University, Mt. Pleasant, MI 48859. *A generalized family of lifetime distributions and survival models.*

In lifetime data, the hazard function is a common technique for describing the characteristics of lifetime distribution. Monotone increasing or decreasing, and unimodal are relatively simple hazard function shapes, which can be modeled by many parametric lifetime distributions. However, fewer distributions are capable of modeling diverse and more complicated shapes such as N-shaped, reflected N-shaped, W-shaped, and M-shaped hazard rate functions. In this work, we introduce a generalized family of lifetime distributions, namely, the uniform-R{generalized lambda} (U-R{GL}) and derive the corresponding survival models. Two members of this family are derived, and some general properties of these members are studied. The method of maximum likelihood (ML) for estimating the model's parameters are employed. The distribution is applied to fit two lifetime data sets. The survival model is applied to fit a right censored lifetime data set. (Received September 23, 2018)