

This thesis deals with two basic models which are used for epidemic modelling in closed populations, namely Greenwood and Reed-Frost models. At first, knowledge which a reader needs to have about Markov chains and random variables is summarized. Then the two models are described by modelling the number of susceptible and infectious individuals, as well as the duration and size of the epidemic. All of these approaches to modelling an epidemic are then illustrated on examples. Finally, the maximum likelihood method of the probability of infection is described and illustrated on real data in the last chapter, where the obtained results are discussed as well.