In this work, we deal with fixed interval scheduling problems with the possibility of random delay of the end of the tasks (FIS). First, we present the basic deterministic FIS problems and ways to solve them. Next, we introduce the concept of minimax and present two well-known and one new FIS problem under uncertainty, when random task delays are considered to belong to a certain uncertainty set. Next, we deal with the solution of previously presented FIS problems for five chosen uncertainty sets. We present both previously achieved and original results. The work concludes with a summary of a numerical study of two problems. First, we explore the possibility of Lagrange relaxation application to the first presented problem. Next we explore the quality of approximation allowing to solve the later of problems as LP.