The goal of scheduling problems is to assign machines to a pre–specified jobs which require processing. Standard approach leads to integer programming problems where machine assignment is represented by binary variables. However, the resulting problems are of high time complexity. Formulating the scheduling problems in terms of network flows shows to be a more effective approach. The aim of this thesis is to introduce basic scheduling tasks and methods used to formulate them in terms of network flows. By means of total unimodularity, we show that network flow algorithms are suitable for solving such problems. Finally, the results are demonstrated in a numerical study.