The main objective of the thesis is to design an expert system of production jobs scheduling in a printed circuit board manufacturing. The system is used to provide an appropriate schedule for each operation based on rules and heuristics from experts.

The expert system consists of several experimental knowledge bases. Each knowledge base composes of the group of rules and specific heuristics. A reformulative approach is used in the system to break down the complex problem into manageable sub-problems for the jobs scheduling. Rules and heuristics are used in the consultation according to machine and job status in order to provide appropriate job schedules.

By testing with the real production system, the expert system shows the better results than the current method in terms of production output and number of jobs delivered on time.