The main objective of this thesis is to study the impacts of the uncertainty to Production Schedules in the case of machine breakdowns. Frequency , time and duration of machine breakdowns are used to classify the intensity levels of uncertainty. In order to study such problem , a computer program is developed. The structure of the program consists of : 1) Input data for scheduling 2) Scheduling algorithms 3) Rescheduling algorithms and 4) Analysis and Display. In addition , the program can also conduct such a complex feature as interactive scheduling. The output of the program can be displayed on Gantt Charts. Several measures , i.e., Flowtime , Lateness , Tardiness , Number of Tardy Jobs and Machine Utilization can be employed to compare the performance of alternate schedules.

From the results of the study. , the algorithms that show good performances consistently , both in scheuling and rescheduling , are SMT (Smallest Ratio by Multiplying Total Processing Time) , SPT (Shortage Processing Time) , EDD (Earliest Due Date) และ SLACK (Slack Time).

ภาควิชา วิศวกรรมอุตสาหการ   ลายมือชื่อนิสิต

สาขาวิชา วิศวกรรมอุตสาหการ   ลายมือชื่ออาจารย์ที่ปรึกษา

ปีการศึกษา 2540   ลายมือชื่ออาจารย์ที่ปรึกษาร่วม