

## **Solving Process Planning and Scheduling with Number of Operation Plus Processing Time Due-Date Assignment Concurrently Using a Genetic Search**

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**Abstract :** Traditionally process planning, scheduling and due date assignment are performed sequentially and separately. High interrelation between these functions makes integration very useful. Although there are numerous works on integrated process planning and scheduling and many works on scheduling with due date assignment, there are only a few works on the integration of these three functions. Here we tested the different integration levels of these three functions and found a fully integrated version as the best. We applied genetic search and random search and genetic search was found better compared to the random search. We penalized all earliness, tardiness and due date related costs. Since all these three terms are all undesired, it is better to penalize all of them.

**Keywords :** process planning, scheduling, due-date assignment, genetic algorithm, random search

**Conference Title :** ICAIEMP 2017 : International Conference on Advanced Industrial Engineering and Manufacturing Processes

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** July 27-28, 2017