

# MODELING AND OPTIMIZATION OF PRECEDENCE-CONSTRAINED PRODUCTION SEQUENCING AND SCHEDULING USING MULTI-OBJECTIVE GENETIC ALGORITHM

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## TÓM TẮT:

Optimisation of precedence-constrained production sequencing and scheduling is a class of problems that requires a double optimisation - for sequencing and scheduling - at the same time, which are ubiquitous to production and manufacturing environments. This paper presents the development of a Genetic Algorithm (GA) to solve this problem. Due to nature of constraints, novel strategies for encoding chromosomes, crossover, mutation operations and handling constraints have been developed. The GA developed to deal with this class of problems uses variable length chromosomes and its capability is demonstrated by a complex and realistic case study.