



## Thesis Projects (MIE498 H/Y) 2018–2019

**Title/Topic:** Minimization of a makespan for multiproject job scheduling

**Description:**

The objective of this thesis is to develop an operations research model and a computational algorithm for a multi-project job scheduling considering given arrival times, due dates, available resources and project job requirements. Other assumptions include job precedence, parallel processing, and various resource requirements. A feasible schedule should be found minimizing a makespan, first for a given, finite time horizon, then considering a re-scheduling upon new project arrival.

The project is suitable for one or several Industrial Engineering or Engineering Science students (UG thesis group project) who performed well in Probability, Statistics and OR courses. Computer programming will be required to find the optimal schedule and to perform sensitivity analysis in addition to an OR software with LP package.

**Note:** *In addition to the listed topic, topics in the areas of process/quality control and improvement, maintenance, reliability, production and inventory control, including theoretical problems in the stochastic OR area or engineering statistics for students considering graduate studies are possible. Interested students should contact Prof. Makis.*