

ISE 419 – Planning and Scheduling in Manufacturing and Services

Instructor: Eugene Perevalov
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Meeting times: TR 1:10-2:25

Course description:

An advanced study of a variety of production planning, scheduling, and distribution models and systems. Heuristic, algorithmic, and analytical methodologies are explored in the context of production systems. Specific topics include single machine sequencing, flow shop and job shop scheduling, and flexible assembly scheduling. Also discussed are resource constrained project scheduling, timetabling, economic lot scheduling, workforce scheduling, and scheduling in the supply chain.

Required text:

M.L. Pinedo, *Planning and Scheduling in Manufacturing and Services*, Springer, 2009.

Tentative Course Schedule

Week of	Topic	Chapter(s)
Week 1	Preliminaries	1-3
Week 2	Selected topics in Project Planning and Scheduling	4
Weeks 3-4	Machine Scheduling	5
Weeks 4-5	Flexible assembly systems	6
Weeks 6-7	Economic lot scheduling	7
Weeks 8-9	Planning and Scheduling in Supply Chains	8
Weeks 10-11	Interval Scheduling, Reservations, and Timetabling	9
Week 12	Workforce scheduling	13
Weeks 13-14	Some Service Applications	10-12

Grading Policy:

Homeworks: 25%
Midterm: 30%
Final: 45%