OPM 661 - Business Analytics: Robust Planning in Stochastic Systems

Course announcement

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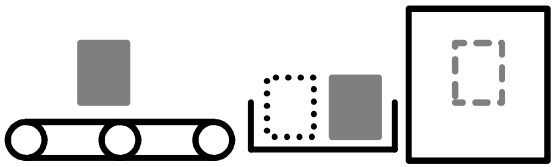
Chair of Production Management - Prof. Dr. Raik Stolletz

Mannheim, Fall Term 2021

General Information

Welcome to OPM 661!

- This slide set covers information about the organizational issues of the course
- Everything is planned to be online
- Your presence in Mannheim is not required
- All course materials and announcements will be provided via ILIAS
- For your planning: We recommend to have passed OPM 561 (parallel attendance possible)



Sessions

- **Lecture:**
  - Online, **not recorded**
  - Thursdays, 15.30 - 17.00 (B5), Start: 16.09.2021
  - Room: BWL-ZOOM-25
- **Exercise:**
  - Online, **not recorded**
  - Tuesdays, 15.30 - 17.00 (B5), Start: 21.09.2021
  - Room: BWL-ZOOM-20
- **Case Studies / Assignments:**
  - Implementation of selected lecture content in Python
  - 20 points achievable, added to the points of the exam

Introduction to Python

- Python skills are not a prerequisite for the registration
- Guided learning-by-doing: Lecture slides, exercise sheets, and code snippets are provided to learn Python during the semester (self-study + Q&A)
- **Goal:**
  - Acquiring necessary Python skills to implement predictive and prescriptive analytics concepts related to robust planning
  - Performing sensitivity analyses to generate managerial insights
- Mini-Python Case study to test your Python skills

OPM 661 Preliminary Structure

I Introduction to performance evaluation and simulation

1. Queueing systems, decisions, and applications
2. Performance measures and simulation

II Performance analysis of Markovian queueing systems

3. Stochastic processes and Markov chains
4. Performance analysis and economies of scale

III Impact of variability in queueing

5. Queueing systems with general distributions
6. Time-dependent analysis of queueing systems

IV Optimization and queueing

7. Optimization concepts and approaches
8. Robust planning with scenarios

V Practical insights

9. Predictve and prescriptive analytics with Python
10. Guest lecture by OM professional

General Introduction to the Chair

- General introduction to the chair of Production Management
  - Wednesday, 08.09.2021, 10:15-11:45 (B2)
  - Online
  - Room: BWL-ZOOM-20

See you in September!

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