

<b>OPM 662</b>	<b>Business Analytics: Modeling and Optimization</b>
<b>Language</b>	English
<b>Aim of module</b>	This course introduces mathematical modeling approaches for planning and scheduling of operations. Operational and tactical planning tasks are formulated as linear and mixed-integer linear programming models. All lectures will be given in a computer lab, where the optimization models are implemented and solved using standard software. Different heuristic techniques to cope with high complexity are introduced and implemented. During the course the students will work on several case studies and assignments (individual and in groups).
<b>Learning outcomes</b>	Students learn how to formulate production planning and scheduling problems as mixed-integer linear models and how to implement them in standard software to derive optimal plans/schedules. The students also learn to deal with the complexity of real-world problems (e.g., via aggregation, relaxation, and decomposition techniques) and how to perform sensitivity analyses in order to get useful managerial insights.
<b>Prerequisites</b>	<p><b>Formal:</b> Module OPM 561 of the Area Operations Management; other modules may be accepted upon request.</p> <p><b>Recommended:</b> The topics are based on the modules OPM 661 or OPM 662; additional preparation is required if students did not attend those modules; sound knowledge in production management; sound quantitative skills; interest in scientific research</p>
<b>Notes</b>	Registration for OPM 662 is limited due to the limited number of workplaces in the PC lab.
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