Logistic information systems (non-IE)

Offered by: Department of Industrial Engineering en Innovation Sciences
Language: English
Primarily interesting for: All non-IE students interested in logistic decision making, simulation and analytics
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Content and composition
In this elective package, you study principles of logistic systems and their quantitative analysis. In particular, inventory management and production planning systems are discussed in Production & Inventory Control. In Business Process Simulation, you analyze logistic systems quantitatively by using process simulation as a technique. Analysis of such systems can also be done based on data, which is discussed in Business Analytics & Decision Support. In all courses, the analysis is used to determine the optimal decisions for improving the logistic processes.

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Level classification</th>
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<tbody>
<tr>
<td>1CK50</td>
<td>Production &amp; Inventory Control (non-IE)</td>
<td>3. Advanced</td>
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<tr>
<td>1BK20</td>
<td>Business process simulation</td>
<td>3. Advanced</td>
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<tr>
<td>1BK40</td>
<td>Business analytics and decision support</td>
<td>2. Intermediate</td>
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There are no obligatory precedence relations.

Course description

**Production & Inventory Control**
In this course basic concepts and techniques in inventory management and production planning will be introduced. Upon successful completion of the course, the student should be familiar with the analysis and modeling of inventory management and production planning systems.

**Business Process Simulation**
Business Process Simulation is a tool for analyzing the performance of a business process and the impact of certain changes to these processes. Simulation is used when analytical techniques such as queuing theory or a direct experiment in practice cannot be used. A model of the business process is built and executed in a simulation tool in order to get insights in the performance indicators and bottlenecks in the process. Based on this information ideas for redesigning the process (to make it more efficient) can be generated or checked for their impact. In this course, you work in a group on a simulation project for a realistic case. You will apply a simulation methodology to arrive at recommendations for improvement and redesign of the business processes.

**Business Analytics and Decision Support**
Agile organizations can gain competitive advantage through timely, thorough and relevant analysis of their (past) performance data. Coupling the results of this analysis to operational and management decisions leads to operational excellence. In this course, students learn
about advanced methods of data analysis and information processing, as well as their link to
decision making models. Both individual and group decision making is discussed.