**Logistics of Chemical Production Processes**

<table>
<thead>
<tr>
<th>Rota</th>
<th>Duration</th>
<th>Semester</th>
<th>SWS</th>
<th>Credit Points</th>
<th>Workload</th>
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<tbody>
<tr>
<td>annually SS</td>
<td>1 Semester</td>
<td>2nd (Semester)</td>
<td>2 SWS</td>
<td>3</td>
<td>90 h</td>
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### 1 Modul Structure

<table>
<thead>
<tr>
<th>Course (Abbreviation)</th>
<th>Type/ SWS</th>
<th>Presence</th>
<th>Self Study</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Logistics of Chemical Production Processes</td>
<td>Lecture / 1 SWS</td>
<td>15 h</td>
<td>45 h</td>
<td>2</td>
</tr>
<tr>
<td>b) Logistics of Chemical Production Processes</td>
<td>Tutorial / 1 SWS</td>
<td>15 h</td>
<td>15 h</td>
<td>1</td>
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### 2 Language

English

### 3 Content

The students obtain an overview of supply chain management and planning and scheduling problems in the chemical industry and of techniques and tools for modeling, simulation and optimization. These include discrete event simulation, equation-based modeling, mixed-integer linear programming, heuristic optimization methods and modeling and optimization using timed automata.

**Literature:**
- Handouts
- Slides

### 4 Competencies

The students will be enabled to identify logistic problems, to select suitable tools and techniques for simulation and optimization and to apply them to real-world problems.

### 5 Examination Requirements

The final exam will be an oral (20 minutes) or written (1.5 hours) exam, depending on the number of participants (form will be announced in the second week of the course). In addition, active participation and collaboration in 3 computer exercises is required.

### 6 Formality of Examination

- Module Finals
- Accumulated Grade

### 7 Module Requirements (Prerequisites)

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### 8 Allocation to Curriculum:

Program: Automation & Robotics, Field of study: Process Automation

### 9 Responsibility/ Lecturer

*Prof. Dr. S. Engell/ Prof. Dr. S. Engell*